

PLATE C.

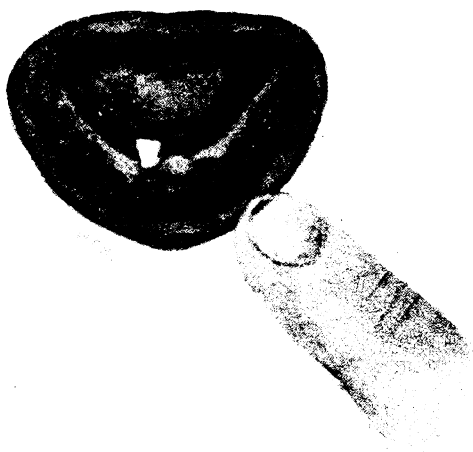


FIG. XI.

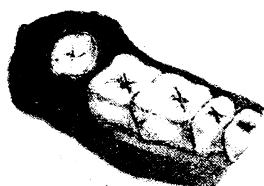


FIG. XII.

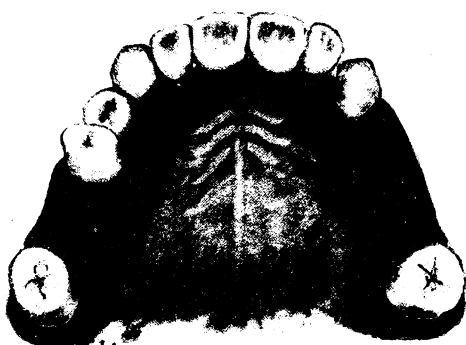


FIG. XIII.

STOMATITIS CATARRHALIS.

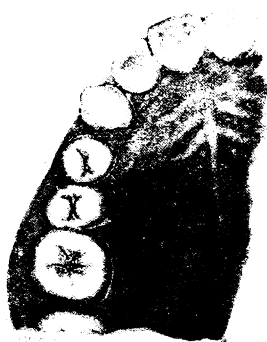


FIG. XV.



FIG. XIV.

STOMATITIS ULCEROSA. (SIMPLE ULCERATIONS) (a.)

ITEMS OF INTEREST.

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NO. 2.

ORIGINAL COMMUNICATIONS.

ORAL DISEASES;

SURGICAL AND NON-SURGICAL.

By W. F. Rehfuess, D.D.S., and L. Brinkmann, M.D.

[CONTINUED FROM PAGE 7.]

STOMATITIS CATARRHALIS.—This form of stomatitis is an inflammatory condition of the oral mucous membrane induced by a local irritation, though constitutional disturbances are sometimes the exciting factor. It includes the mildest forms of inflammation of the oral mucous membrane, in which the destructive phase of the inflammatory process does not result in the actual loss of tissue, or proceed to ulceration.

It is most common to children, particularly during the period of first dentition, and usually can be traced to that cause (Fig. xi). However, the etiology of the disease has shown that it may be due to irritants of a different character. These are either mechanical, chemical, thermal or parasitic. Frequently, in very young children, an erupting tooth acts as a mechanical irritant. This is the case when the eruption of the tooth is more rapid than the absorption of the integumental tissue, causing an obstacle to its eruption, producing congestion, tumefaction, and a general inflammatory condition. The pressure thus exerted causes pain of a varying degree by reason of the irritation of the gum tissue, and of the nervous and vascular supply of the tooth pulp. The inflammation thus produced is invariable to a degree. Again, children carry such things to the mouth, as buttons, pins, toys, etc., and by these mechanical means injure the membrane.

As chemical irritants, may be cited the foods in process of fermentation, having a very acid reaction. These particles remaining in the mouth irritate the membrane. In adults the eruption of

a wisdom tooth is frequently accompanied by stomatitis catarrhalis (plate C, Fig. xii), ill-fitting rubber dentures producing the same condition (Fig. xiii). It is also incited by the ragged and sharp edges of decayed teeth, and fillings improperly finished at the cervical margins.

The exact irritating influences the bacteria of the mouth have in producing stomatitis catarrhalis, has not been determined. Forscheimer believes they are an important etiological factor, but is unable to precisely define their causative relationship. Thermal changes, the taking of foods of a too high temperature, or drinks given too hot or cold, are frequently predisposing factors. Again, the lack of cleanliness and the non-observance of the hygienic condition of the mouth may cause it.

SYMPTOMATOLOGY.—According to Sudduth, stomatitis catarrhalis may be acute or chronic. In children it is seldom chronic. In the acute stage the disease is easily recognized, commencing as bright red patches on the oral mucous membrane in the buccal regions, at the angle of the mouth, or within the area of an erupting tooth. However, it has no special starting point. The patches increase in size or may coalesce, involving sometimes the entire membrane. Then it is called erythema (plate C, Fig. xi). There is an increase of redness which, at first, may be of a bright tint, but in serious cases, gradually becomes darker and swollen, sometimes assuming a livid hue. It is less where the mucous membrane is thinner, as on the hard palate, or directly over the seat of an erupting tooth (plate C, Fig. xi). Here it is pallid, and of a yellowish white tint.

The blood-vessels are dilated, and as stated, the intensity of the inflammation varies from the mildest marked by slight redness and swelling, to the more severe forms, when the gums become tumid, swollen and bleed readily when injured. The disease is always accompanied by an increased flow of saliva and coating of the tongue, the membrane is painful to the touch, no fetor of the breath. These four characteristics are important points to be observed in diagnosis. In the acute stage, as the disease advances, the redness lessens, due to the proliferation of the epithelium.

Sudduth says that white blood corpuscles are present in greater or less quantities in every case of stomatitis catarrhalis. Sometimes the muciparous follicles of the membrane become swollen, consequent upon the stoppage of their ducts from the inflammatory condition, causing the surface of the mucous membrane to have a roughened appearance, made up of small, round

prominences, the enlarged muciparous follicles. Forscheimer says that these ducts occasionally become enormously dilated, resulting in a cyst, which, on opening, discharges a small quantity of mucus.

It is associated with various ulcerative processes affecting the tonsils and pharynx, and is found accompanying various fevers and diseases, described later under the head of stomatitis symptomatica. A summary of the symptoms to be observed in diagnosis are: Red patches on the mucous membrane of a varying hue or a general reddened condition, coated tongue, membrane painful to touch, increased secretion of the saliva, breath non-fetid in acute stages.

Treatment:—The prognosis of the disease is favorable; frequently it runs its course, recovering without special treatment. In the acute stage, it lasts but a few days, whereas the more severe cases require several weeks, and, when chronic, perhaps months of constant treatment.

The first consideration is the removal of the exciting cause, whatever it may be: sharp edges of the teeth, deposits of tartar, etc. The subsequent treatment should be with the view, *LOCALLY*, of allaying the soreness and pain, and subduing the inflammation; *CONSTITUTIONALLY*, to relieve such symptoms of the disease, as fever, or derangements of the bowels, that may arise, coincident with the local inflammation.

Cleanliness is one of the primary rules in the treatment, care being taken that all particles of food that may find lodgment in the mouth are removed. In young children extraordinary care must be observed not to injure the membrane in their removal, swabbing them out with clean cotton wrapped on a broach, which, if desired, can be dipped in an antiseptic solution such as one of diluted listerine (1-6). The mouth is then thoroughly saturated and irrigated with listerine (1-6 or 8), or some other diluted antiseptic solution. In very young children it is impossible to use a mouth-wash with any degree of satisfaction, as the tendency of the child is to swallow or expectorate it. The use of an atomizer, spraying the mouth with the desired solution, will be found most effective. Listerine is very beneficial in uncleanly mouths. Hydrogen peroxide is also advised. A combination of the two (one-third of the former to two-thirds of the latter); water may be added if desired.

In very inflamed conditions, in the interim between atomizing, the mouth can be washed with ice-water; or cracked ice may be applied, held between the folds of a piece of lint or a napkin.

As lotions, solutions of borax or potassium chlorate (grs. xv to oz.), salicylate of sodium, boric acid, borax and honey, etc., are

all reliable remedies. Painting the membrane with silver nitrate (one per cent. solut.) once in twenty-four hours, is highly recommended.

Returning to the consideration of the removal of the causative irritation of teething, the question is presented: In the eruption of a tooth of first dentition, and of the inflammatory condition coincident thereto, is lancing beneficial? There has been much discussion pro and con as to the propriety of such lancing of the gum over an erupting tooth. Late writers, such as Barthez, Rilliet, Churchill and Forscheimer, decry the custom of lancing as practiced by many physicians and dentists, not without cause, perhaps, because there are many diseases coincident with first dentition. Serious as they may be, simple lancing of the gums alone will not always suffice to effect a cure, neither will it sometimes benefit the condition much. They claim that the tooth would naturally erupt without lancing.

This is true if there are no local manifestations of inflammation or if the symptoms show absence of internal irritation, but when the reverse is the true condition, lancing is undoubtedly indicated.

A number of modern writers have antagonized the position assumed by those who "never resort to the lance." The dental profession are almost a unit in favor of the operation. Dr. E. C. Kirk, in an able editorial in the June (1892) number of the *Dental Cosmos*, criticised and condemned these views, defending the practice of lancing.

When considerable or even a slight degree of congestion is present, though the child suffers with convulsions, the operation is advisable on scientific and anatomical principles.

According to Dr. J. D. White, in the "American System of Dentistry," there are two causes which are generally accepted as responsible for the inflammatory condition and of the sometimes intense pain incident thereto, viz.: The direct pressure of the advancing tooth on the fibrous integuments, the erupting tooth proceeding more rapidly than the absorption of the overlying tissues; and of the undue pressure thus exerted and the resistance of the gums causing a pressure on the nervous and vascular supply of the pulp. These cause, locally, soreness, tumefaction, inflammation, perhaps resulting in ulceration and an irritability of the general system—fevers, diarrhea, constipation, convulsions, etc.

The most conservative writers and practitioners have shown that internal medication or scouring of the gums, does not generally relieve these conditions, but that free lancing is invariably

followed by an improvement, because the congested condition is relieved, and the pressure on the nerves removed.

In lancing, a deep cut should be made, a linear for incisors, and a crucial one for bicuspid and molars. The blade of the lance must be wrapped with cotton as a protection from injury to adjacent tissues.

The author has found the application of massage of the adjacent tissues and directly over the seat of the inflammation very beneficial if the congestion is not considerable. The massage should be light, using oil of juniper on the finger in manipulating.

It has been held that the hemorrhage attendant on lancing is dangerous, and has caused ten and perhaps a larger number of deaths not recorded. This, Dr. J. D. White says, is one of the principal objections advanced against lancing. Many of the best writers on the subject ridicule the idea of such danger, inferring that these deaths could not be directly attributed to such hemorrhage. In persistent bleeding use tannic or gallic acid, alum, styptic collodion, or, as a last resort, the actual cautery.

The tendency of derangement of the health from irritation of teething is a well-known and accepted fact. Complicated systemic disorders may result coincidentally. There is an increased susceptibility to nervous and digestive derangements. The bowels should be regulated by laxatives; diarrhea should be checked by astringents.

It is not within the scope of the present article to give a detailed resumé of these diseases or of their treatment. The writings on this subject are infinite. These belong to a separate treatise. It must be admitted that as educated at present there is a limitation to the class of these diseases which should be treated by the dentist. The minor symptoms and disturbances can wisely be treated by him, but when serious complications ensue, the case should be relegated to the care of the physician.

STOMATITIS ULCEROSA.—(Plate C, Figs. xiv, xv; Plate D, Figs. xvi, xvii, xviii, xix, xx; Plate E, Figs. xxi, xxii). This disease is an inflammation of the oval mucous membrane, resulting in an ulceration, varying in degree from a limited destruction of the superficial tissue, to an extensive molecular necrosis involving both the gum and alveolus.

Some writers separate under distinctive names the various ulcerations of the mouth, not recognizing that, pathologically, they are identical in their inception, differing only in their severity; but all such ulcerations will be grouped under one general head—*Stomatitis Ulcerosa*; and that no confusion may result, each variety will be

sub-classified under a distinctive term, a modification of the classification made by Allchin, as follows: SIMPLE, MEMBRANEOUS, APHTHOUS and HERPES ZOSTER, STOMACACE.

These various forms have the same general origin, commencing in a simple catarrhal stomatitis, but the subsequent course of the inflammation and resulting ulceration differs in each.

This depends on and is influenced by the nature of the exciting cause. Thus, a mechanical irritation, generally results only in a superficial ulceration, but, if influenced by constitutional causes, the ulceration will assume a more destructive phase.

SIMPLE ULCERATION.—(Plate C, Figs. xiv and xv.) This form of ulcer, is that following a catarrhal stomatitis, which, instead of entirely recovering, terminates in the destruction of the superficial tissues. This exfoliates, leaving a red patch. Plate C, Figs. xiv, xv, are produced by the irritation from a chemical impurity of rubber-dam.

These ulcers are variable in shape of the slightest depth, presenting a reddish and frequently bleeding surface, looking precisely as though a shred of the membrane had been torn away. They occur in the buccal and labial regions and sometimes on the root of the mouth.

A differential diagnosis is unnecessary, as they cannot be mistaken for any other condition.

Treatment.—Simple ulcerations yield readily to treatment, and heal as soon as the inflammation abates. The cause should first be removed, followed by the use of demulcent or stimulating washes. A septic condition is an indication for antiseptic washes. If obstinate, have recourse to painting the ulcer with two to four per cent. sol. nitrate of silver.

To be continued.

NOTES FROM ENGLAND.

By Dr. William Williams.

While in the States I heard the remark once, "Is he a doctor of learning, or only a doctor of medicine, a dentist or a horse doctor?" The thought struck me then very forcibly that there must be something wrong somewhere that that idea should be entertained by any one respecting the medical, dental or veterinary profession.

Personally I think it very unfortunate and tending to lower the title that the doctorate degree should be so liberally dispensed

in the States in the medical and dental professions. I believe if the Bachelor degree was instituted (like this country) it would soon place a much higher value on the Doctor's degree. I hold forth that dentistry should be only a specialty of medicine or surgery, like ophthalmology. It looks very humiliating for a dentist to be obliged to refer a case of pericementitis to a medical man for treatment. I would like to see Michigan or some other leading university offering a course as follows, preparatory to a medical, or dental, or veterinary course: A thorough three-year course in English, French, or German, and mathematics; complete courses in histology, physiology, and anatomy, leading to the degree of B. Ph.; medical and dental students taking comparative and human anatomy, and veterinary students substituting veterinary anatomy, then a medical and surgical course for three years longer, leading to the degrees of M. B. and B. S. (Bachelor of Medicine and Surgery). This being a full qualification to practice medicine and surgery in all its branches, including dentistry, and if candidates like to proceed further, they should have the opportunity to proceed to the M.D. degree in either of the following departments:

1. Medicine.
2. Hygiene.
3. Obstetrics.

Or the Ch. D. degree (Chirurgical Doctor) in either of the following departments:

1. Surgery.
2. Ophthalmology.
3. Dentistry.

So much for dental education. In this country your readers are aware that dentistry is not recognized as worthy of a special degree by any university. The only qualification in dentistry is L. D. S. (Licentiate of Dental Surgery), granted by the colleges of Surgeons of London, Edinburgh, Dublin and Glasgow respectively; all these are simply examining bodies. I believe the dental course is better in the best colleges over there than here, and though I believe the examinations over here are more severe generally, yet I think that the Americans would come out of the trials over here quite as successfully as the natives. In a very few years even the best dental schools over there will have to look to their laurels, as they are making very rapid strides forward in London and elsewhere, establishing mechanical laboratories, etc. Formerly the mechanical branch was relegated to any outside registered dentist to teach.

UNIVERSITY DENTAL EXTENSION WORK.

By Prof. R. B. Tuller.

We are indebted to you for the kindly words spoken of the Post-Graduate Dental Association, in the November number of *ITEMS*, and, judging from the number of letters I am getting from all parts of the United States, your journal must indeed have a wide circulation. But allow us to explain: what we are doing is simply to utilize University Extension ideas (home study), selecting such books and studies, as, in the estimation of our Educational Council, are best adapted to the wants of the dental practitioner. These courses we are arranging as rapidly as possible to suit any phase of professional experience, from the beginner preparing for college to higher grades running into collateral subjects and other literature that go to make the reader broadly intelligent, as becomes professional men.

We are not in competition with colleges, and in no way do we pretend to be a substitute for the superior training of such schools. Aside from the beginner, who may become a subscriber to better prepare for college, we go outside the college sphere of work and endeavor to reach that class who have passed college and engaged in practice, or who, as non-graduates, are settled in practice with little likelihood of ever attending college, unless the advancement we shall help them to make may give them a different outlook, and stimulate a desire to take one. We shall be glad to see every college establish such a short special course as that established by the Chicago College of Dental Surgery arranged for practitioners. Almost any dentist could find time and means to get away to such a course, and we could most heartily urge attendance, and could make it a requirement in conferring some of the honors our circular alludes to. I submitted such a proposition to the National Board of Dental Faculties last summer.

We as a progressive profession look forward to a time when proper laws in all the States will regulate the practice of dentistry, so that "some day, some day," all will be graduates. Realizing the dilatoriness and inefficiency of laws in bringing desired reforms, and that they cannot be retroactive if ever so efficient, and that at this rate of going we must wait a good many blasts of Gabriel's trumpet to complete the transformation, I am impressed the time has come to make some new departures in some of our methods of dental progress. We must look the facts in the face, set aside methods that have failed to bring desired conditions and try some-

thing else. I believe the movement we have inaugurated, becoming popular as it will, in fact *is* already, is free from any element but what is right and just to all concerned, and will do as much to lift dentistry up to the high professional standard it deserves, as any other effort that is being made.

University Extension is sweeping over the country among the masses with its grand elevating benefits to all desiring advancement and willing to do their part, and we, as a progressive and intelligent class of men, want to keep up with them.

STUDENT LIFE AND PROFESSIONAL CAREER.*

By Prof. C. N. Peirce.

In the expression of your opinions as students you will soon learn the necessity for accuracy and exactness, which are such important factors in your profession. To have your statements well digested, and be able to support them with facts must be a professional habit. Loose and extravagant propositions are misleading and embarrassing. As you are now soon to become members of a profession, with all its responsibilities, in which you must rely almost wholly on your own resources, let me, in a few words, indicate some things which may lead to success, and disregarding which will lead to failure.

Thoroughness and concentration of thought on specific subjects are of first importance. Too great diversity of studies is unprofitable.

A landscape floating before the vision of the painter cannot be transferred to the canvas till close observation and study have made every object in the field familiar. To successfully reproduce the fruits of his imagination, the ideal must have taken possession of his soul; his every thought and movement must be in unison with its spirit and beauty.

Rosa Bonheur achieved her prominence as a delineator of animal life only after years of study in the cattle yard; and the popular applause which was accorded her pictures was supplemented by the discriminating praise of critics whose judgment could be influenced only by merit. Through this devotion to her ideal she holds an unrivalled reputation as the finest animal painter in the world.

*Read before the first meeting of the C. N. Peirce Dental Society of the Penn. College of Dental Surgery.

Russell Smith, the renowned scenic painter of this country, when required to paint a drop curtain for our Academy of Music, which should represent the finest elm tree in the world, wandered through our forests till he found, on the top of the Alleghenies, the ideal. There he built himself a cottage on the summit of the mountain, in the heart of the forest, and under the noblest of all the elms. Beside that gigantic trunk, spreading out its splendid plume against a background of blue sky, he studied every branch, and twig, and leaf, till they gave him the utmost familiarity with their structure and filled him with admiration and love. He then placed his ideal on the canvas and brought from the wilderness to this city the portrait of a friend with whom he had summered.

Espy, night after night on the house tops, encountering wind and storm, watching the movements of the clouds, has made his name immortal through the establishment of a meteorological science.

In our own specialty, Harris and Litch, with our good professor of physiology, Brubaker—whose judgment has been to you a light in your hours of darkness—have, by unremitting labor and perseverance, given us a literature which carries our profession a fourth of a century forward. Miller, of Berlin, with his microscope, culture medium and *singleness* of purpose, has raised our theories of dental decay from empiricism to a scientific foundation; and Dr. I. N. Farrar, of New York City, has, with twenty years of devoted labor, given us a work on orthodontia, so rich in methods and artistic in appliances that we now correct irregularities with a certainty before unequalled. I mention these, my young professional friends and students, for your encouragement. While you realize the road to success is narrow and difficult, you see it is open to all who may be willing to comply with the requirements of success.

In this world of rivalry there is no royal road; singleness of purpose, devotion to the ideal, enthusiasm in your work, these are the essentials, and with them there is no such word as fail. Half heartedness, wavering in our purpose to do the best possible under the circumstances, and indifference to opportunities, will damn your prospects. You are yet students. The degree of integrity, industry, application, which characterize your conduct now, will be sure to adhere to you hereafter—for as the boy is father to the man, so is the character of the student the ruling spirit in the life of the subsequent practitioner.

Personal habits are of importance. Let me urge that cleanliness akin to godliness, with gentleness under all circumstances,

however trying and with whatever provocation, must be the rule. Nothing in a practitioner's life and habits can do more to injure him with the public and his patrons than uncleanness. The relation of practitioner and patient is so close that patrons will not a second time encounter filth. Gentleness, with suavity of manner, will secure many a patient who would be repelled by its absence. It is not half so trying or embarrassing to be sorry for something unspoken as for something said, done or written. So, whether in the office, in the drawing-room, or on the street, remember that self-control, control of speech, is the safest policy—indeed the only true policy—and from many a sorrow will it free you. It will not be, it probably is not now, an easy task to always control your thoughts, but better by far for the fire of wrath to smoulder and smother under the cover of self-restraint than to blaze out and consume the glory of self-respect. To control this "swamp angel," as my late friend, Dr. Atkinson, used to call it, may cost a severe struggle, but it pays and brings its reward.

In professional ethics, or conduct toward your patients and your professional brethren, you can always afford to be just; indeed, you cannot afford to be other than upright and honest. Opportunities for seeing and criticising a rival's services you will meet with often, but remember always, that though you may see the work and have a just estimate of its value at the time, which may not be flattering, yet bear in mind that you do not know or are not familiar with all the circumstances under which it was done or to which it has since been subjected. Do not overlook the fact that health, systemic as well as local conditions, may have a marked deteriorating influence on operations which have been creditably performed. If you are pressed for an opinion, it is easy to respond that you do not know what conditions have induced this apparent degeneracy of the work, or the teeth, or both. Be very careful how you solicit patients to leave their dentist that you may serve them, even though you might be willing to do it for a less sum; and even when patients, who have been under the care of another, come to you unsolicited, it is certainly a courtesy due to the previous operator that you express, if possible, an appreciation of his services and that they had been well served. If you learn, even after an appointment has been made with a new would-be patron, that a bill for previous services by another has not been paid, cancel your engagement at once and till such settlement has been effected. Be ambitious, persistent, and self-reliant, but above all else be just, "*and dare do all that becomes a man.*"

Connect yourself with some convenient local dental society. If none within reach exists, use your efforts to form one, if only four or five can be gotten together, and make yourself a factor therein, not by aspiring to read long papers or making breezy speeches, but by carefully noting facts of interest, and taking with you to your monthly meetings carefully prepared records of these observations. Incidents of practice, peculiarities of mouths and teeth, unusual normal or abnormal developments, experiments with filling material, interesting results in any department, give freely, as a duty, to your profession and never, for one moment, keep as a secret process, method or instrument which could in any way relieve suffering. Do this as regularly as your meetings come, and your presence and your budget will be looked for and your labors appreciated by your associates. Whatever else you do, or do not do, let not jealousy in any degree or manner enter your heart.

In repartee, in criticism, in controversy, be kind and considerate and especially so to your juniors. Pay your annual dues promptly and cheerfully, not begrudgingly, as if it was a personal favor to the treasurer.

Take a good dental journal, whose pages are edited by a dentist, in the interest of dentistry. In this way keep in touch with your profession in having a broader outlook from this source than can be secured through the society alone. In August, when the exacting cares of your office are limited, let part of your outing be spent in going to the American Dental Association. There you meet with the older and many of the best men in the profession, representatives from all parts of the country. If you are a member of a local organization it will probably send you as one of its representatives. If you have not an original article, take with you to this association an epitome of the papers and suggestions given to your home society during the twelve months previous, being careful to always give credit for valuable items and thoughts. In carrying out this suggestion, you greatly add to the interest in your own work which soon becomes more to you than a question of bread and butter. This habit encouraged, it will soon become a joy to note the incidents of practice which will be worthy of record, and you will also note how the fact of making these observations will dispel the fatigue and the monotony which are the result of protracted and exhausting labor.

There are many persons who start out in a professional or some other career, with a brilliant dash, promising wonderful results and yet so often fail, because they do not keep single-

handed at the task undertaken. It was ambition that started the tunnel under the Alps and through the Hoosac mountains, but it was steady, persistent labor that made these magnificent passages for the transit of men and property.

Show me the student who sticks to his lectures and books, who digs, as we say, at his lessons till he understands them, and I will show you the promise of future success. Show me the professional man or woman who takes hold of work with a conscientious, persistent determination, and, if the calling has not been utterly mistaken, I will show you one who will in the near future command the situation. Do not, I beg of you, be deceived by the words lucky and unlucky, and, *Micawber*-like, wait for something to turn up. Take hold of the work before you in earnest, remembering that the "lucky" man or woman has been a worker, a hard worker.

Embarrassments and failures are stepping-stones to success. Of course, if hard work stops with the first unsuccessful attempt, then indeed failure must result. Profiting by mistakes is the law of progress. That is what tells. Achievement in any realm is the consummate result of years and, it may be, of generations of struggle. It is the reward which almost always comes to persistent effort. *Ambition, persistence, self-reliance* are the foundation of permanent success.

Plato is said to have defined a man as a two-footed, featherless animal. Diogenes plucked a cock, and, taking it into school, said: "This is Plato's man." The student and subsequent dentist, to whom I have been trying to introduce you, must have something more than those elements of which anatomy and physiology take note. Two feet, two hands, with power of speech, and erect walking do not make the student and will not make the professional man or woman, other qualities must be added. The manliness with which I want you to be familiar is more than a vertical body with grace and beauty of form, clouded with tobacco and beer—you must possess the combination of qualities which have already been indicated, so that when you go forth bearing the honors of your Alma Mater, your teachers can proudly present you to your future patrons as representing integrity, persistence and self-reliance, united with gentleness and refinement. The true qualities of a gentleman must mark the conduct, the life of every one who would succeed. And it cannot be a cloak put on, nor a character assumed. If it is not native it must be inwrought by the most thorough culture.

OUR OLD WHEEL HORSES.

By Dr. H. A. Hibbard.

I read with interest in the December ITEMS OF INTEREST the action taken by the Connecticut Valley Dental Society, regarding the old wheel horses in the profession, who are so unfortunate as not to possess a diploma from a dental college. I am one of them, having been in the profession since 1858, served an apprenticeship of two years in the old Bay State. Then it was a severe task for most of us to do halfway justice to the patient, and I am quite sure many of mine didn't get even that. Well do I remember the corralling of a younger brother (and I am quite sure it is fresh in his memory) as my first victim of gold filling. It was no holiday entertainment for either of us, I assure you. No rubber-dam, no engine, no annealing of gold and many other improvements that the student of to-day has to assist him in his work. Then the laboratory work, the grinding of fourteen single gum teeth and nearly blowing your lungs out before succeeding in attaching them to a metal plate. After a lapse of more than thirty years, I believe Job's patience was not put to a more severe test than was the old time dentist's. And I have no hesitancy in saying that too much credit cannot be given to the old veterans who have done so much to raise the profession to the standard it has attained. Many of them have crossed the river, leaving behind the monuments of their handiwork in nearly all the civilized nations. Time has been lenient with others of us, who are left, and still take as keen an interest in the advancement of the profession as in former years. I am quite sure I voice the sentiments of a large majority of the dentists of the United States when I say, "Let the same privileges be given to those who have been in the traces since 1860, that are granted to many who possess a diploma, and feel obliged to call on us for advice." We are not asking protection, the privilege is what we want, which is nothing more than justice.

Let me claim for the University of Michigan Dental College what you (page 704) would like to see, viz.: a clean college. I am a freshman, and on three months residence, and with reference to my classmates, believe we can make the claim. We may have one or two "chumps," but the majority will, I believe, tend to raise the profession. Come and see us. *Ann Arbor, Mich.*

CONSANGUINITY AND DEFORMITIES IN GENERAL.

By Dr. Thomas Bramwell.

There are localities in Europe where intermarriages produce constantly individuals defective in constitution, mind, and limbs.

The incestuous practice of marrying within the near propinquity had long existed in Spain, with its consequences,—dwarfing of the body, and mental degeneration.

Writers on lunacy attribute lunacy, or innate idiocy, so frequent among Scotch families, to the old national practice of never marrying out of their clan. The most degraded people in Portugal marry within themselves, and each generation is more degraded, which is also true in other countries of Europe.

In a county in South Carolina where the different families intermarry for many generations, the proportion of idiots and deformed is unprecedented. Mr. Tylor has shown that among widely different races in the most distant quarters of the world marriages between relations—even between distant relations—have been strictly forbidden. He is inclined to attribute this to the evil effects of consanguineous marriages having been observed.

Interbreeding among animals is much closer than with the human race. All breeders have testified to the deterioration which arises when too close breeding is carried out among animals.

Consanguinity in itself counts for nothing, but acts from related organisms having like constitutions, and being exposed in most cases to similar conditions. Many physiologists attribute the evil exclusively to the combination and consequent increase of morbid tendencies common to both parents; and that this is an active source of mischief there can be no doubt.

The short-horn cattle offer the most striking case of close interbreeding. A high authority asserts that many more calves are born cripples from short-horns than from other and less closely interbred races of cattle. Even in an unenclosed country like Paraguay, where there cannot be such close interbreeding, there is an occasional introduction of animals from distant localities, to prevent degeneration in size and diminution of fertility.

In regard to deer, as observed in the parks of England, Mr. Shirley concludes that in some parks, where there has been no introduction of fresh blood, the constant breeding in-and-in is sure to tell to the disadvantage of the whole herd.

The offspring of strong spaniels degenerate into weak and diminutive lap-dogs, when bred in-and-in. In the case of pigs,

long-continued and close interbreeding does not affect the external form or merit of the young; but with many of them the general constitution and mental powers were seriously affected; in some cases idiots were produced.

That consanguineous marriages have a very demoralizing effect on posterity, is a well-known fact to all scientists and physicians. The results are very marked in the nobility of Europe. The mental wrecks, as well as the physical condition of many of these royal heads, are illustrations of intermarriage among near relatives. It is claimed by dentists that excessive or arrested development and irregularities of the teeth are more common among royalty than among the masses. It is very common to find children born of cousins and near relations in this country defective in body and limb. When the brain is involved, we have two factors which assist in producing excessive or arrested development of the jaws. First, direct inherited tendencies, such as a large or small jaw; and second, defective development due to neurosis. These deformities are very marked among the Hebrews, with whom intermarriages are very common. Thus, in the Hebrew Orphan Asylum, New York City, only 74 per cent. of the inmates had normal jaws.

THE USE OF GUTTA-PERCHA.

We have just seen where gutta-percha performs an important part in the preservation of teeth. Now, I will try and show where it in turn is destructive. For instance, a large cavity on the grinding surface of a molar, after being excavated, little more is left than the walls of enamel standing on four sides. Several years ago I filled a number of such cavities mainly with gutta-percha, covering with amalgam to prevent wear. Many of them returned in two or three years, with one side of the enamel fractured to the gum. In two cases there was no occluding tooth; it was, therefore, hardly due to mastication. In one case the fractured enamel was replaced with amalgam, and the patient dismissed, to return in a year with more enamel gone.

I can account for this fracturing in no other way than by a slight expansion of the gutta-percha, and I think that these cases call for cement for the main body of the filling. If, from the close proximity of the pulp, you fear harmful results from the acid in the cement, use some quick-drying varnish over the dentine.

Dr. E. C. Blaisdell.

CURRENT THOUGHTS.

BACTERIA.

Putrefaction is always accompanied by the presence of bacteria; and bacteriologists maintain that this process cannot take place without the presence of microörganisms. It has been reasonably demonstrated that microörganisms are the definite cause of specific diseases. The cholera bacillus has been successfully isolated, and the disease produced in healthy animals by inoculation. This is also true of many others; anthrax typhoid fever, consumption, etc., can be produced by inoculating healthy animals with pure specimens of the microörganisms found in these diseases. It is the confident expectation of bacteriologists that characteristic bacteria of every known disease will be determined by further research. Just how these minute organisms produce such destructive changes in living tissue is not definitely known. It has been observed that conditions favorable to their growth are moisture, body temperature, and a favorable medium. Excessive temperature, hot or cold, will inhibit their growth, or destroy them. 105° F will inhibit most varieties; at 32° F they will not grow. They will not grow in either an acid or alkaline medium. It is evident that the process is very closely allied if not identical with fermentation. It has been found that there is present in tissue affected with pathogenic bacteria a peculiar nitrogenous waste product, which has evidently been produced by the activity of the microörganisms. It very closely resembles vegetable alkaloids, which are formed in putrefying mixture, and is usually poisonous. It is called a ptomain (from *ptoma*—a corpse) because it was first isolated from dead bodies. It is the ptomain that produces in animals the characteristic disease, poisonous or fatal results.

There exist in the body at all times various and numerous species or forms of bacteria. It is a wise provision of nature that it is so, for we find that the presence of the non-pathogenic orders have a decided tendency to modify or correct the action of the disease-producing species. The favorable conditions and presence of germs in so great a variety would seem to promise the speedy overthrow of all vital function in the tissues of the body, were it not for the fact that nature has made provision for resisting the encroachment and interference of these organisms, which is brought about principally in three ways:

First, the fluids of the body are capable of destroying them by their acid character, or prevent their growth by their alkaline reaction.

Second, the white corpuscles of the blood and the connective tissue cells have the power to destroy the bacteria by taking them into their interior and digesting them. This can only be accomplished to a definite extent, and when more bacteria are present than the cells can digest, the cells themselves give way and are destroyed by the bacteria, and we have death and the putrefactive process set up.

In the third place, the bacteria overcome and destroy each other or are destroyed by their own products. If a wound is inoculated with several kinds of bacteria, one species will gain the ascendancy at the expense of the others, till it has by destruction so contaminated the media in which it is operating by its own activity and has produced a condition in which it cannot grow; an excess of acid, or alkali, or alcohol; then its activity ceases and the germ becomes incompetent to produce its species. At this stage another kind of germ that thrives on the conditions present may take up the fight and change conditions to his own hurt or disadvantage, and he in turn is compelled to give way to a more vigorous successor.

This kind of a warfare will continue indefinitely, or till by surgical and medical interference or renewed and reinforced vital function, the system is enabled to overcome the parasitic influence and reestablish a normal and vigorous functional condition.

It is at this point that the interference of the surgeon or physician is needed to turn the process in favor of the attacked structures.

That the disinfecting process may be intelligently accomplished it is not necessary that we recognize the peculiar variety of micro-organisms which may be present, as fortunately the larger number will succumb to comparatively harmless agencies, and all can be reached by drugs contained in our *materia medica*.

The conditions produced by the different species are varied, according to the germ, but those which are especially concerned in the formation of gases and odors are of particular interest to the dentist. But all forms are liable to produce both gases and odors under the conditions present in most dental lesions, such as putrefaction of the pulp, alveolar abscess, pyorrhea alveolaris. It is not important here to enumerate the particular action of special species or forms.

We must classify all agents or drugs which may be used to overcome the influence or results of the action of microorganisms under the general head of antizymotics, that is, agents which will prevent fermentation, for we are not justified in separating fermentation from putrefaction, for fermentation is an essential feature of putrefaction even in animal structures.

In the clinical application of antizymotics for the correction of disease, we find that all drugs and methods to be efficient must be applied in such concentration or power to effect the desired results, that continued application would result in the destruction of large amounts of valuable tissue that is not all or only slightly affected by the encroachment of zymotic influences. And we have learned also that tissue which is not inoculated, or only slightly affected, can be kept in an aseptic condition by attenuated solutions of strong germicides or by milder agents, which we will designate antiseptics. We will, therefore, make a sub-classification of antizymotics into disinfectants and antiseptics. The disinfectant is the means whereby we aim to remove all infectious matter and agencies from the tissue; the antiseptic is the means used to preserve the cleanliness obtained by the use of the disinfectant.

Dr. N. S. Hoff, in Dental Register.

PYROZONE.

The medicinal pyrozone is an aqueous solution containing three per cent. H_2O_2 , which represents fifteen volumes of contained gas.

The former so-called fifteen-volume solutions are now claimed to be but ten volumes.

The range of use for this 3 per cent. pyrozone is similar to that in which the ordinary peroxide has been employed.

In this connection, I would like to say that diluted peroxide is often prescribed, and that I have never used it with any satisfaction when diluted, but always use it full strength.

Medicinal pyrozone is a good bleacher, but less penetrating in its effects than the stronger preparations.

The antiseptic pyrozone, containing 5 per cent. H_2O_2 , or twenty-five volumes in ethereal solution, seems to be more generally serviceable in dentistry. The caution should be noted that concentration follows on evaporation of the ether. Thereby the antiseptic strength in time may become caustic. The effects of the 5 per cent. and of the 25 per cent., or caustic solution, are so similar in general character, that with the statement that the 25 per cent.,

in most instances, is caustic, though not in all, an indefinite description as between the two will serve as an outline of the observations that have been had on these oxygen conveyors.

These ethereal preparations are neutral, and, though they decolorize litmus paper, it is by bleaching through the action of the oxygen on the organic coloring matter, not a reaction caused by acid.

They are inflammable and volatile. The first use made of them by me was in the bleaching of teeth. A pledget of cotton soaked with pyrozone, 5 per cent., was placed in a cavity, and the surface of the tooth wiped with the same strength. It produced a very considerable bleaching effect in a pulpless right superior first bicuspid. This 5 per cent. strength has been used to remove the brown or green stain about the necks of children's teeth, care being exercised that the fluid does not touch the gum.

As a bleacher, pyrozone is (by its makers) advised to be used after applying an alkali.

Pyrozone alone bleaches teeth well. Whether it is a solvent of the organic substance of the tooth, or whether the chemical constitution of the tooth, being mainly alkaline, furnishes the basis for its activity, remains to be shown. Its application on soft tissue produces a bleaching effect strongly resembling an eschar. This progresses slowly after application, therefore caution should be exercised to give full time for this characteristic appearance before further application. The white, apparently coagulated surface resumes a pink tone slightly lighter than before the application of the pyrozone.

The change occupies from a quarter to one minute in whitening the surface, according to the character of the inflammation. The more the inflammation approaches suppuration, or the greater the congestion, the more rapid is the action of apparent coagulation. The fading of the white color occupies five to ten minutes.

Pyrozone in all strengths is a prompt hemostatic, though because of the caustic effect sometimes produced by both the stronger ethereal solutions, the 3 per cent. will probably best serve this office. Pyrozone acts more promptly on moist surfaces than on such as are dry. In a case of pyorrhea alveolaris, suppurating for eight months previous to treatment, the suppuration was controlled after one application of caustic pyrozone (25 per cent.) on all of the teeth except about the transverse processes between the right superior central and lateral, and the left inferior central and lateral. The processes themselves had softened, and will require further

time to become restored to health. In this instance the caustic pyrozone caused a surface coagulation under which, or through which rather, the gas seemed to be liberated continuously, producing a crepitous sensation on passing the finger over the surface. This crepitation gradually subsided, the confined gas seemingly being given off through the external coagulated surface.

The color (white) fades more rapidly from the normal surface than from the abnormal, and as a diagnostic help pyrozone, 5 per cent., seems to have possibilities. Liquid alboline, benzoinol, or other mineral-oil product, as vaseline, will be found palliative to the prickling of the caustic.

It was intended to make some observations on phenate of cocaine, but the clinical opportunities sought for pyrozone have somewhat eclipsed the phenate. However, for the present it must suffice to state briefly that as a local anesthetic for extraction, congested pulps, and in opening abscesses, it has proved a valuable aid, entirely subduing pain without injury.

The continued use of pyrozone has intensified the statements made, and with reference to the 5 per cent. or antiseptic pyrozone it has been found especially efficient in two somewhat grave cases, one of necrosis where the external plate of the alveolus of the inferior maxilla had been (in extraction) ruthlessly separated from the symphysis to the angle, the teeth of the entire lower denture having been ordered removed by a physician, who had externally poulticed an abscessed right inferior first bicuspid. Marchand's medicinal peroxide was also used in comparative tests with pyrozone (3 per cent. or medicinal), by injection in the sinuses. The resulting froth was in every instance thicker and more abundant with the pyrozone 3 per cent. than with the Marchand peroxide. This seems to indicate that the claim made by the maker of pyrozone 3 per cent., that their preparation is fifteen volumes and Marchand's but ten, is true. The abnormal tissue sooner returned to health, and the suppuration more rapidly ceases under treatment of pyrozone 3 per cent. than under Marchand's peroxide. In a case of severe ulceration of the left cheek, starting about the orifice of the duct of the parotid gland and extending to and slightly posterior to the condyle of the upper maxilla, the 5 per cent. strength of pyrozone has been employed in comparative tests with salicylic acid (saturated solution in alcohol). The pyrozone produced at first considerable pain, which rapidly subsided, leaving a clean non-suppurating surface. The salicylic acid produced pain for nearly six hours, and left a coagulum which in three days peeled

off, leaving a tender surface with isolated spots of suppuration. The reduction in the depth of ulceration in both applications was evident, but the early relief from pain and the absence of the coagulum with the pyrozone 5 per cent. indicated it a preferable stimulant and antiseptic.

The great principle of cure is to remove abnormal conditions as nearly as possible, and let nature make the cure. In a general way, keep the body inside and out *clean*, and it will be healthy. This oxygen seems to effectively accomplish, and the apparent absence of all danger in its use places it in an enviable relation with other corrective agencies.

Dr. C. B. Atkinson, in Cosmos.

THE COLUMBIAN DENTAL CONGRESS.

The dental profession generally, will, we believe, heartily ratify the list of officers chosen by the Executive Committee at Chicago, October 22nd, and published in our last issue. The President, Dr. L. D. Shepard, of Boston, is well known for his energy, enthusiasm and executive ability. His opinions are pronounced and aggressively sustained, but they are usually such as commend themselves to every fair minded man.

The Secretary-General, Dr. A. W. Harlan, whose position will entail the hardest work devolving on any officer, has always proved himself equal to the occasion when his services have been required to forward the interests of the profession. He will be ably assisted by Dr. Friederichs, of New Orleans, and Dr. Louis Ottoby, of Chicago.

The Vice-Presidents are all men well known, highly respected and representative men in the profession in the United States.

Dr. Jno. S. Marshall, the Treasurer, will attend to the finances with that care and fidelity which characterizes the man in all that he undertakes.

We cannot take leave of the retiring officers of the temporary organization without testifying to the faithfulness with which they have transacted an enormous amount of preliminary work. To Drs. Walker and Hunt rightly belongs the credit for an immense amount of labor for the interest of the congress and the profession, at the sacrifice of personal convenience and personal business interests. We can well believe that they have preferred to give place to others, and so divide the burdens necessarily devolving on the principal workers.

Ed. in Western Journal.

ANCHORAGE OF GOLD FILLINGS.

The ideal filling is one of cohesive gold throughout, well contoured and anchored in firm tooth structure. These happy combinations are not always present, thus the requirements must be met by combinations of other preparations. It is true that a few skillful operators claim to accomplish all that is required with cohesive gold alone. Allowing this claim, there is a waste of energy for the operator, and needless strain on the patient without corresponding benefits. One thing should not be lost sight of which is a fixed law in nature: that a metal filling in the mouth exerts an electro potential influence to decompose the fluids that may be between the filling and the walls of the cavity, or in the dentine itself when that is much below normal density; this decomposition is according to the conductivity of the plug and its powers to resist oxidation. Thus gold, being the best conductor and non-oxidizable, acts with greater persistency than tin or amalgam. Let no one be deceived, and make a mistake in trying to circumvent this law by perfect manipulation without a cavity lining which will exclude moisture.

Though cavity lining is not anchorage, it has much to do in laying the foundation for fillings. Your attention is called to a few specific cavities and conditions of dentine, with recommendations for treatment in starting fillings:

First. Assuming that an accessible cavity is properly prepared in dentine of normal structure, with undercuts or angles so that the first piece of gold inserted is held firmly, and on which every other piece is made to cohere till the plug is completed, no finer filling can be produced, in appearance or for tooth preservation, and thus credit is given to all who can do this superior work.

Care should be taken not to drill deep anchor pits into the vital dentine, as formerly practiced; much harm has been done by or through the thermal changes thus introduced.

Second. Foundations of soft gold for cohesive plugs.

A large portion of gold fillings are done in this manner, and probably each operator has a method which suits him best. The one which best answers my purpose is to commence with one or more cylinders. Without describing the kind of cylinder recommended, we might as well say pellet; there is nothing in the market that answers the purpose, and we may better give a description how to make cylinders now than later on.

Ney's No. 4 foil is best adapted for cylinders, on account of the roughness imparted to it by the book paper under pressure.

Smooth foil makes cylinders too hard. The leaf may be cut into half, third, or one-fourth strips, the ribbons folded to a width according to the depth of the cavity. Cylinders should be kept on hand, and the selection made as required. The narrow strips are rolled around a broach, or better, a three-sided point attached to a firm handle; when the roll is drawn from the point, the ends should be slightly pressed with pliers.

Let us now consider a cavity, medium or large, located in the grinding surface of a molar, surrounded by firm enamel borders; bottom of cavity left flat or concave. If the dentine is firm and dense, the cavity is ready for the gold; where soft and sensitive, yet firm enough to warrant filling, varnish the cavity with some quick-drying varnish. I am using Canada balsam dissolved in chloroform. Without waiting for the varnish to harden, line the bottom of the cavity with a piece of gold foil of two or three thicknesses; on this lining place a cylinder which will about fill the orifice of the cavity. If too large, compress; the length of the cylinder may be one-half or two-thirds the depth of the cavity. Then commence with cohesive gold; every piece introduced remains firm and is driven into the folds of the cylinder, condensing and expanding laterally every portion of the plug at the base by lateral pressure against the wall of the cavity, and the anchorage is perfect.

Third. Proximal cavities in molars or bicuspid, extending from the cervical border to the grinding surface.

Contour fillings. Matrices well adapted to this class of work are made of rolled aluminum, wide enough to extend from the gums to one-half the length of crown, and beveled to knife edge. Insert the matrix of suitable thickness, and bend the ends away from the cavity, thus giving full view of and access to cavity. The matrix is used only to prevent the first pieces of gold from falling out, and not to mold the filling. The cavity being in readiness, the portion next to the gums only should be varnished, as any such coating on enamel or even dentine prevents the mechanical bite which gold has on enamel without varnish.

Select a cylinder smaller than the cavity, but longer than its depth; carry one end of the cylinder into the cavity, and force the outer end toward the gum on the incline made by the knife-edge matrix. When the cylinder has been firmly pressed to the cervical border of the cavity, another cylinder may be placed by its side, or one on either side, and packed as before; thus a firm and broad foundation is laid, on which cohesive gold may be packed to finish. When done, one end of the aluminum is bent straight, and the

piece drawn out by the other end. When the projecting ends of the cylinders are condensed and the plug finished, no portion of the filling will be more perfect than at the cervical border.

Fourth. Condition same as the last described, except the cavity extends beneath the gum. A case from practice will illustrate:

A patient, while absent, had occasion to have a bicuspid filled; the cavity extended beneath the gum. The dam was applied, and two unsuccessful attempts made to fill with gold; the patient returned with a phosphate filling. Examination showed it useless to apply the rubber. The cavity was prepared, and filled with amalgam to the cervical border; the remainder was filled with gutta-percha, and the patient dismissed. At the next sitting, the amalgam was cut down for a foundation, the rubber applied, and the tooth filled with gold. One year's time shows no discoloration from the amalgam.

Fifth. Cavities on buccal or labial surfaces, extending beneath the gum, making it difficult to apply the rubber, especially the shallow, crescent-shaped cavities in centrals and laterals. Prepare the cavity with no more depth than is necessary to remove the softened dentine; let the margin be distinct, and walls at right angles with the bottom of the cavity. Protect the teeth with a napkin or paper; also fill with bibulous paper between the teeth on either side of cavity. Dry thoroughly the cavity and gums exposed, and varnish both cavity and gum, allowing the varnish to pass beneath the gum where there is space, which will prevent ingress of moisture by capillary attraction. Line the cavity with crystal gold; first go around the border of cavity, then build across till the cavity is lined with a basket of gold; on this foundation a solid gold plug may be anchored of any cohesive gold without danger of its falling out or of decay around it.

This method is the same as given by Dr. Howard in a clinic at Rochester, and it more than meets his claims in filling the porous dentine, whereby fluids are excluded and secondary decay prevented. With a little practice, filling is made easy with this class of cavities.

Modification and adaptation of the principles here laid down will meet all conditions of anchorage for gold fillings; nor is this preparation of foundations less valuable for amalgam, gutta-percha, or phosphate fillings. Indications for use of varnish under oxyphosphate are sensitive dentine or near approach to the pulp; no acid excitement is experienced with this cavity lining.

Under gutta-percha, it is valuable in fastening the filling to the walls of the cavity under conditions unfavorable for exclusion of moisture, as each piece of filling remains fixed in the cavity. It is true chloro-percha and some of the essential oils also cause the filling to adhere, but the lining is much softer and yielding than varnish. In connection with amalgam, it may be used, as with gold as a lining for cavities where poorly calcified dentine must remain as a pulp-covering; also in cases where dependence is placed on oxidation to fill the dentine. So far as I can determine, this answers the same purpose with much better appearance. Amalgam fillings inserted in heavy varnish remain bright on the surfaces in contact with the cavity walls, which is not the case in many amalgams touching dentine.

Again, where there is no action on the metal, there is none on the dentine. Thus amalgam which contains no copper may be used with equally good results, without discoloring the teeth.

In conclusion, science teaches that the result of every operation in filling is the outcome of principles laid down in the foundation and observed to completion. Whatever is success at any time will be for all time, under the same circumstances and conditions.

Progress is based on the knowledge and amplification of principles leading to better methods. Thus we are stimulated in search of more knowledge and higher attainments.

Dr. S. B. Palmer, in Cosmos.

LINING CAVITIES WITH CANADA BALSAM OR OXYPHOSPHATE.

Dr. A. M. Holmes describes a method of using Canada balsam with gutta-percha fillings. Having first evaporated the solvent from the balsam, and moistened it with chloroform, he lines the cavity with the solution and fills with gutta-percha, finishing the filling with tape moistened with chloroform. This makes a filling which will not leak, and the gutta-percha will be held so fast to the cavity that it cannot be pried off, but will be pulled to pieces before it will leave the tooth. He has used gutta-percha in this way under amalgam fillings for the prevention of pain from the changes in temperature. In an incisor, where the front part of the tooth is broken away so that there is no chance for anchorage except on the bottom of the cavity, he uses Williams' crystal gold to begin with, and finishes with crystal gold. Where the walls of the cavity are strong enough to warrant it, he uses soft foil for filling, as it takes less time and will not leak.

Dr. C. W. Stainton says, a gentleman told of filling an incisor where he had built up the corner with gold. The filling afterward came out, and he had replaced it and stuck it in with soft oxyphosphate cement. Dr. Holmes tried the same thing; and had been very successful in several cases,—in at least a dozen cases where there was no retentive shape to hold the filling. The oxyphosphate holds the gold, and the gold protects the oxyphosphate from dissolving.

Dr. Palmer uses the soft oxyphosphate with fillings that have fallen out, and it succeeds both with amalgam and gold; he uses it also as a lining of cavities.

Dr. Darby says that on Dr. Palmer's suggestion, years ago, he had tried this plan on a patient, but the filling came out. He tried it several times, and somehow just about then more of his fillings came out than ever before; he had the record of ten, every one of which failed.

Dr. Palmer says, when a filling came out it should be thoroughly cleaned, as well as the cavity. Every part of the filling should be made bright; then having mixed the oxyphosphate to the consistence of cream, line the cavity with it, and also touch the gold with it, covering that part which is inside the cavity. Press it to place, and hold it firmly till the cement sets. If this course is followed, good results are to be expected.

Dr. Lee says he has had good success with crystal gold over oxyphosphate.

Dr. Darby says he always regretted to hear men whom the profession holds in esteem advocate such practices as the use of Canada balsam as anchorage for fillings, because it does not seem to be good mechanics, and should be recommended with great care, for it is possible some will follow the practice to the exclusion of more careful and reasonable methods. It will, or may be, as it was with copper amalgam: many of us feared it till the statement was made that Dr. Miller had pronounced it the *ne plus ultra* of filling-materials, then we felt safe to follow where so great a man led, till we can all agree that no one thing has done so much harm in dental practice as copper amalgam.

Dr. Palmer says his first point is to use the balsam to line the cavity to protect the dentine from electro-chemical action, and guard against the effect of thermal shock to the pulp; another point gained by the use of the balsam is to guard against the entrance of moisture around the filling. It also helps to hold the gold in place while filling.

FERMENTATION.

The process of fermentation is one that has a wide range in nature. It is the means by which existing organizations are broken down into molecular conditions, so that growth and development may take place and even life itself be perpetuated. For instance, food taken into the alimentary canal meets first with a substance in the saliva called ptyalin, which changes its starch into a substance that can be appropriated by those absorbent structures whose business it is to secure the pabulum for the proper nutrition of the tissue of the body. Gastric juice and the pancreatic fluid each contain a peculiar ferment which selects its peculiar kind of food and breaks it up into its elements, so that the absorbents may appropriate them to nourish growing tissue cells. We have an excellent illustration in the rotting of grain where a peculiar substance called diastase, has the property of changing the nature of the starch contained in the grain to an entirely different substance, so that the plant that is to grow from the seed may appropriate it for nourishment.

This class of ferments are called organic, because they are the product of an organized body, but they possess no organization, such as we find in another important class of ferments which are organized.

The organic ferments are chemical but not vital substances, and in the economy of nature they are useful agencies in procuring food and nourishment for organized living bodies, but are not largely concerned in the destruction of living tissue in the production of disease.

The organized ferments have a distinct and definite organization. They, under favorable conditions, exhibit all the phenomena of life. They are capable of locomotion, grow and reproduce their kind. They exhibit many phenomena of animal life, yet microscopic investigation has determined their place as belonging to the vegetable kingdom. They are essentially seeds of plants. A body of protoplasm and a cellular wall or covering of a ligneous nature. Some are capable of destroying life in tissue and creating disease, and are called pathogenic; others are harmless or non-pathogenic. Some need air or oxygen to support life, aerobic; others live without air and are anerobic. It is therefore folly to think of all these germs as destructive. We could not live without them. Many of those we speak of as destructive destroy substances much more noxious than themselves.

Dr. N. S. Hoff, in Dental Register.

COCAINE IN REMOVING TEETH.

By cocaine, exposed pulps can be paralyzed and removed with no pain or discomfort to the patient. Cases which would seem most antagonistic to any radical treatment yield most gracefully to this. Pulps which would resist arsenic are satisfactorily disposed of by this method. Teeth are not "devitalized" by this treatment, as is often the case with strong caustics, but are simply made "pulpless," retaining their color and vital connection with the jaw.

The immediate root filling, which is a part of the operation, seals the tooth before germs can get in, and there is no resulting abscess to be feared.

To operate, it is necessary to have, first, a tightly packed, smoothly-running hypodermic syringe, with a flexible, blunt point. This latter condition I obtain by putting the point of a Dunn syringe into a hypodermic syringe. Second, a freshly prepared 20 per cent. solution of hydro-chlorate of cocaine. (I have not yet had the opportunity to experiment with so-called milk of cocaine, which is suggested as being better.) Having an exposure of the pulp (the smaller the better), first apply on cotton some of the cocaine solution. This in a few moments makes the exposed part approachable, and if the opening through the dentine to the pulp is not as large as the end of the syringe-point, the syringe can be placed immediately over the point of exposure.

Having adjusted the syringe-point, the piston is then to be firmly and steadily pressed down—slowly at first, and with increasing pressure—finally to be pressed down with considerable force, carrying the solution up and around the pulp to its extreme end. At the first impact of the liquid against the pulp the patient sometimes feels a shock,—not worse, however, than one gives the patient when feeling with a probe to see if previous application of arsenic has done its work. If, now, the syringe-point has been properly directed and fits over the exposure or into the opening in dentine, so as to allow but little back flow, the operator can immediately open freely into the pulp-chamber with a bur, remove the pulp from the canals with barbed broaches; or even better, where possible, enlarge the canals and remove the pulp at the same time with a Gates-Glidden drill.

The advantage of this latter method is that after the pulp has been entirely removed by a broach, if there is any delay in putting in the filling, the inner walls of the root become sensitive again, and it is as impossible to pass a probe into them as when the pulp was in its normal condition.

A case or two by way of illustration :

Miss L. had been in Philadelphia during the winter, and having gone away without the usual autumn examination, a capped pulp had come to grief, and an eminent dentist in Philadelphia had applied arsenic. The patient returned to Boston with cotton dressing in the tooth, and reported to me the day before departing for Europe, wishing to have the tooth filled. She said the tooth was "dead," but when I passed a probe into the distal root I found it very much alive. It took but a moment, however, to pass a small syringe-point down into the root, inject the cocaine rather forcibly, and then with barbed broach remove quite a sizable piece of root pulp. The roots were then washed with antiseptics, dried, and filled with gutta-percha. This case is typical of a large class, and we all of us have the teeth with "life in the end of the roots," which have baffled our efforts to completely remove, and which therefore we have had to keep dressed and temporarily filled for months, waiting for complete death. As a fellow-practitioner remarked to me the other day, the operation was worth everything to us for just these cases alone.

Mrs. R. is a patient of my brother's. He was called to see her for the first time in her sick-room, where she had been a nervous invalid for over a year. Two or three teeth presented exposed pulps. He tried the method described here, and removed the pulps of two teeth without the slightest shock or pain to the patient; this, too, under the most disadvantageous circumstances, at the residence of the patient. I have the record of fifty or more cases, almost all of which can be classed as perfectly successful. Where failure has been the result, it has been caused by defect in carrying out the detail of the operation, failure to get syringe-point directly over exposure; failure to have syringe in perfect working order; failure to use at least a twenty per cent. solution; or neglect to have a fresh solution of the drug.

Dr. E. C. Briggs, in Cosmos.

EDITOR ITEMS:—The Eleventh International Medical Congress will be held in Rome, this year, beginning the 24th of September and continuing until the 1st of October.

The Committee on Organization, following the precedent established in London, in 1881, has provided for a Section of Odontology. As America has contributed preëminently to the scientific progress of dental surgery it is hoped that the dental profession in America will be creditably represented; all reputable practitioners are entitled to membership in that Section.

The time chosen is the most delightful of all the year, and to those who have never visited the "Eternal City" the meeting of the Congress will afford a rare opportunity.

The North German Lloyd Steamship Company have an established line of first-class steamers to Genoa, making the passage in less than eleven days. It proposes to reduce the fare to Genoa by twenty per cent. and the return trip by ten per cent. to those attending the Congress.

The French Railway Company have also offered a reduction of fifty per cent. on its fare.

Dr. Norman W. Kingsley, 115 Madison Ave., New York, has been appointed Member of the American National Committee for the Promotion of the Interests of the Odontological Section. All communications in reference to that Section should be addressed to him.

A. JACOBI, M. D.,

Chairman of the American National Committee.

A lady had been wearing a plate with two front teeth. One morning she dropped them on the floor and stepped on them, breaking off both the teeth. She had engaged to go with her best fellow to a party the following evening. A dentist would not mend them in time, as she lived some distance in the country. She could not go without them; yet go she must. She was in a dilemma.

Fastening the pieces of rubber together with wax, she had a model to work from. She would carve out a set of teeth for herself. What material could she use? First she tried a white turnip. Discarding that, she took a yellow бага turnip, which was of a firmer texture and a better color. And with this бага turnip and a pocket-knife, she actually carved out a plate with teeth attached, the whole thing the size and shape of the original "store teeth." And so successful was her work that she wore this turnip-plate to the party without detection. Soon after she carved a second set which she wore once. After that she again applied for professional services.

Dr. I. Douglas, in Dental Register.

"Mother, what a hot day this is. I am all in a sweat."

"My daughter, I am surprised at your vulgarity. Horses sweat, men perspire, but ladies glow."

"Well, mother, then I am in a flame."

For the treatment of teeth with dead pulps there is nothing better than periodate crystals, which should be used as follows: Place the rubber-dam on the tooth to be treated, remove all decay from the tooth, thoroughly opening up the pulp chamber, remove débris of pulp and syringe out with hot water. Next enlarge root canals with a Gates drill (being careful not to go through the apex). Syringe as before and dry the canals with an electric cautery (which I have had made fine enough to go as far as the drill). When quite dry take a small piece of cotton wool, slightly moisten with absolute alcohol, and dip in periodate crystals (taking care to shake off all loose ones, so as not to get near the crown of the tooth, if it is an upper one), carry it to the apex of the fang, then finish the fang, plugging with gutta-percha, placing osteo in the crown and finishing with gold. This may all be done at one visit without fear of any subsequent trouble. Should the tooth have an abscess, it will require treating once or twice before filling.

Dr. C. Vincent Fotherell.

The most innocent-looking instrument used by the dentist is probably the matrix. Yet how many who use some of the many forms think of the danger that lies hidden in them when working gold? The closer the matrix fits the tooth, the more trouble. Here we have the same difficulty as with the undercut, only in a more dangerous position. Is it not bad practice to use one of the many forms of matrices that are held in place rigidly by any form of screw or wedge? Much more durable would the filling be if the matrix was a simple strip of watch-spring steel, held in place by the fingers, or tied in place lightly by a piece of floss silk. The good principle of such a matrix is, that when pressure is given the gold, there is a slight give to the matrix, the gold is forced and condensed to a small extent beyond the margin of the cavity; then when the cavity is filled and the matrix removed, you have a chance to do more condensing around the edges with the burnisher, which adds much life to a gold filling.

Dr. E. C. Blaisdell.

Lately I found it necessary to replace my operating room carpet with a new one. I conceived the idea that perhaps the old one might contain some gold dust, and sent it to the "Refiners," and awaited the results of their work with some degree of interest, thinking that perhaps I would have a bill to pay for services and no returns. This morning I got a reply. The amount of gold it

contained amounted to \$30.96, of silver \$1.92, making a total of \$32.88. The charge for "Refining" was \$10.00, leaving a net result of \$22.88, enough to pay, or nearly so, for the new carpet. I do not recall ever knowing of any dentists following this plan, and so send this bit of experience, thinking it may be of use to some other fellow.

Dr. J. Allen Osmun.

To make a cavity in an artificial tooth, grind out as much as possible with a small corundum wheel and points, then place the tooth on a block of lead and turn a shaving of the lead with a knife on each side to steady it. Now take an old excavator and temper as hard as possible. I heat the excavator to a white heat, then grind to a flat, square point. Now drill your undercuts by light tapping on your drill with hammer, turning the drill slightly at every tap (this is the principal on which most all rock drilling is done), you can get a better cavity in about the same time and much less expense than by using a diamond drill.

A. C. Cook, Millersburg, Ky.

When we look at the work of some of our older practitioners, we find the gold fillings standing about as good as when first put in, except perhaps to the outward appearance they may look imperfect, and you judge that the fillings ought to be replaced; the old fillings are removed only to find the floor of the cavities in perfect condition. Such fillings of thirty and thirty-five years' standing are not rare. I have this summer seen six proximal fillings in the lower incisors that were inserted by Dr. E. S. Rider, of Portsmouth, in 1847 (forty-six years ago), and which are still protecting the cavities.

Dr. E. C. Blaisdell.

With me the greatest satisfaction is electricity as a motor power. The Meston Electric Motor and outfit have the power, and any gentleman who can get the alternating current will never have any trouble with it; the motor will pay for itself in an average practice every month. I have been running one about nine months at an average expense of one dollar per month.

Wm. Conrad.

The road to success in the practice of our art lies not only in the knowledge how to deal with disease, but how to deal with men and women who suffer from it.

Lawson Tait.

INTERNATIONAL REVIEW.

Chips from Dental Workshops Gathered from
German, French, Russian, Spanish
and Italian Sources.

By George Randorf.

THE TEETH AS A MEANS OF IDENTIFICATION.

I. DETERMINING THE AGE.

After the publication of Dr. Rehfuss' work on "Dental Jurisprudence," the importance of the dental profession from a forensic point of view has been enhanced. The following studies by Dr. Hans Mauczka, of the University of Gratz, in *Vierteljahrsschrift für Zahnheilkunde*, will prove of especial interest as illustrating the state of this question in Europe, and bring some new contributions by its most celebrated authorities on the legal relationship of dentists.

Through pathological influences and abnormal vital relations the time of eruption of teeth fluctuates, though generally the eruption of the lower teeth precedes the upper. The table on the opposite page gives the approximal ages of the eruption of teeth.

While, therefore, we can only approximate age by the eruption of teeth, yet as a great light in medico-legal questions, B. Taylor, declares "the teeth are a pretty reliable means of ascertaining the developmental age."

As to the condition of the jaws before birth, Dr. Toldt, in his celebrated work on "Bones in Medico-Legal Relations," explains that "the crown surfaces of the second molar (deciduous) are at least partly formed" in a normally born child, but when the crown surfaces of the first molar are not yet completely formed, then "the skull cannot be regarded as belonging to a ripely born human fruit." And the germs of the various teeth are so definitely formed at certain periods after conception, that the age of the fetus in any given case can be quite accurately determined.

ERUPTION OF TEETH.

AUTHORS.	TEMPORARY TEETH.*					PERMANENT TEETH.*							
	Central Incisor.	Lateral Incisor	First Molar.	Second Molar.	Cuspid.	Central Incisor.	Lateral Incisor.	Cuspid.	First Bicuspid.	Second Bicuspid.	First Molar.	Second Molar.	Wisdom Tooth.
Gerlach.....	6-8	7-13	12-18	24-36	16-24	7-8	8-9	10-11	9-10	12-13	5 end of	12-14	20-30
Magitot**.....	10	20	26	30	30-33	7	8½	11-12	9-12	11	5-6	12-13	19-25
Schauenstein	6-8	7-9	12-14	20-30	16-20	7-8	7-8	10-11	8-9	8-9	7	12-13	16-24 (30)
Scheff**.....	7-9	8-10	13-17	21-30	16-21	8	9	11	10	12	7	13	16-24
Toldt**.....	6-8 7	7-9	12-16	20-30	15-20	8	9	11	10	12	7	13	16-24
	6-7	8-9	13-16	23-25	17-20	7-8	9	11-12	10-11	11-13	6-7	12-13	18-24
Zuckerhandl.... (Tomes-Baume.)	6-8	8-12	12-16	20-30	15-20	7-8	8-9	11-13	9-11	11-13	6-7	13-15	17-40
Zuckerhandl....	7-9	7-9	about 18	about 24	after 12	7-8	7-9	10-12	10	10-12	6-7	12	after 17

*The figures here designate months.

**The figures above the line stand for the upper jaw and below for the lower.

*The figures here designate years.

Besides the eruption of single teeth and their developmental stages, we find some points indicating age in the worn-out condition of teeth. This waste depends chiefly on the kind of food eaten. But while well-conditioned teeth covered with the enamel may belong to youthful persons, worn-out, eaten-through, and crumbling teeth are not necessarily old. The teeth of the aged are indicated by closed apical foramens.

2. DETERMINING THE SEX.

Prof. Schaaffhausen was the first to suggest the existence of a sexual difference in the teeth, which subject was later examined more thoroughly by Dr. Parreidt, who corroborated the Professor by the results of his own measurements of 200 central incisors, proving that in women they are somewhat wider than in men.

Mühlreiter, in his "Anatomy of the Human Denture," found in 100 males the average width of the upper central incisors 8.58 millimeters, and in the same number of females 8.23 millimeters, and still in another 100 females 8.26 as the average width of the upper central incisors. In measuring the width and length of the incisors and cuspids in 100 males and 100 females, Mühlreiter received the following average:

Width and Length of Incisors and Cuspids in Millimeters.

		Central Incisors		Lateral Incisors.		Cuspids.	
		Crown Width.	Crown Length.	Crown Width.	Crown Length.	Crown Width.	Crown Length.
Male	Upper.....	8.5	10.7	6.7	9.4	7.8	10.8
	Lower.....	5.5	9.6	6.0	9.7	6.8	11.2
Female	Upper.....	8.3	10.2	6.4	9.0	7.3	9.8
	Lower.....	5.3	9.2	5.8	9.4	6.4	10.1

From these average numbers it follows :

On the average the upper cuspid in the male jaw exceeds in length by 0.1 millimeter the upper central incisor, while in the female it is 0.4 millimeter shorter. The lower cuspid exceeds the crown length of the upper central incisor in the male by 0.5 millimeter; in the female it is 0.1 millimeter short. Still more important is the absolute difference in length between the male and female cuspids, being 1 in the upper and 1.1 millimeters in the lower.

In reference to the average width of crown, the cuspids mark the difference of sex as sharply in men as in antropoid apes.

Of course there are many individual variations strongly marking the sex, but they belong to exceptions.

In accordance with these figures Mühlreiter divides dentures, showing the sexual difference with variable distinctness in male, female and indifferent types.

To the above determination Morselli ascertained the comparative weight of the lower jaw in both sexes. In one hundred and seventy-two jaws he found that the minimum weight was 43 grams, the maximum, 130, the general average, 73.3; in male jaws the average was 80, and in females, 63 grams. The relation of the middle averages of both sexes is 75.8:100.

It will be noticed that the question of sex determined by the teeth has already been solved by conscientious investigators to a degree where it can serve the observing dentist if called to testify in court, though we must keep in mind that the average size of the whole bony frame of the female is below that of the male.

3. DETERMINING THE RACE.

As we have seen from the description of the characteristics leading to the determination of sex, which are not too numerous, it may be of interest to include here also the question whether race characteristics find expression in the teeth and jaw.

Welcker and Rezius divide the different human races into two groups. In the first belong those having the crowns of their front teeth straight downward, and the second whose front teeth are directed obliquely to the front. It is also important to notice the various mutilations of teeth of various tribes and races. The most recent work on the subject has been contributed by that French savant, whose services in dentistry are known throughout the world, Dr. Magitot, in his "History of Mutilations of the Teeth," published also in the ITEMS OF INTEREST, June, 1892, to which the reader is referred.

4. INFLUENCE OF HABITS ON THE TEETH.

(a.) *The Influence of Right- and Left-handedness.*

By the pyknometer, Dr. Galippe ascertained pretty accurately the average thickness of teeth in their crowns and roots on each side.

According to Dr. Merciolle, right-handers mostly suffer in the left jaw from lesions, caries, anomalies in eruptions, alimentation and disturbances in development. In spite of the small size of the left wisdom tooth, its eruption is more laborious. During sixty-four personal observations, Dr. Galippe asserts that, barring several cases where the irregularities were symmetrical, he observes forty-one irregularities on the left and only twenty-three on the right side. Left-handedness is characterized in the dental system by the large volume and thickness of the left side, a greater frequency of caries and irregularities on the right side, and lastly, by a stronger development of the left jaw.

(b.) *The Teeth of Smokers.*

The black deposit on the teeth of smokers, and which sometimes completely incrusts such teeth, is a characteristic identification. We will confine ourselves to the important rôle the so-called "pipe habit" has played in identification by the changes wrought in the teeth. According to Dumur, the different materials of which pipes and cigar holders are made exercise an unequaled destructive action on the teeth. The hurtfulness of the different materials is represented by this author in the following rising series: wood, horn, bone, amber and clay.

A case of forensic significance of the habit is quoted by Merciolle from the *Union Medicale*, April 12th, 1890:

A banker was found dead in his office, in St. Petersburg. Near his corpse a meerschaum cigar holder was found, broken in two, the amber point, however,

was intact. At first it was supposed that the article belonged to the banker, especially as it contained the remainder of a fine cigar.

On closer examination the investigating judge noticed that the amber point showed two distinct impressions, which must have been made by the teeth of a smoker. Of these impressions, one was deeper than the other, but they did not fit the teeth of the victim.

In the course of the investigation, a cousin of the banker was taken in custody, who came to the latter on the day when the crime was committed, and who was supposed to have remained with him till within half an hour of the crime. While the judge was examining this witness, he noticed that his left central incisor was a little shorter than its neighboring tooth, and he requested the witness to try and take the cigar holder into his mouth. The witness became pale and refused it. The judge then had him arrested and compelled him to undergo an examination: his teeth fitted exactly both impressions on the amber point.

5. PROFESSIONAL DEFORMITIES OF THE TEETH.

(a.) *Mechanical Disturbances.*

According to Merciolle, the teeth of shoemakers are generally spoiled and often show fissures, dislocations and even fractures. Their teeth become full of notches by their custom of drawing the thread by them while stitching, and also by holding nails in their mouth while fastening the soles.

The glassblowers who use an iron pipe in blowing, must be very quick in this, making sudden and powerful motions, and when the pipe is thrust into the mouth with great force, it strikes the teeth and often brings about fractures.

The girls employed in pearl works have the habit of taking the little blowing pipe between the teeth, producing a motion forward and backward and also a rotation of the teeth, which may be used as an identification.

M. Didsbury, who, together with other French scientists, has studied this question, declares that draughtsmen and teachers who are in the habit of chewing their pencils or penholders, also show a corresponding waste on their teeth, often associated with luxation, and thus give a clue to identification.

(b.) *Chemical Causes—Copper.*

Dr. Hirst, whose extended experience is recorded in his book "Diseases of Workingmen," declares that the influence of copper on the teeth is visible in the form of round, sharply marked greenish spots, which cannot be mistaken, especially on the teeth of every coppersmith. And Dr. Perron, who has studied the phenomenon of partial coloring of the teeth of watchmakers of

Besangon, France, comes to the conclusion that "the teeth of all watchmakers show green spots which can be noticed easily and with variable distinctness." This copper deposit has a strong hold on the teeth, which even an energetic scraping cannot completely remove.

(c.) *Lead.*

This is characterized by the coloring of the oral mucous membrane, and especially by what is known as the "lead seam," a colored seam on the gums and teeth, first described by Burton in 1840.

(d.) *Mercury.*

According to Dr. Gerbes, who is an authority on this question, the tooth and gum troubles in this category arise chiefly from the primary local influence of mercurial dust on the gums, resulting in a bluish coloring of the gingivitis. The tooth enamel shows a yellow livid coloring, and the teeth, after being deprived of the softening, swelling and loosening gums, and thus exposed to all influences, are generally destroyed by periostitis caused by mercury.

Eating sugar and sugar dust has a deleterious effect on confectionery bakers. Dr. W. D. Miller, who has made a study of this subject, cites the following from the observation of Prof. Hesse, in his recently published work "Microörganisms of the Mouth :"

In the local dental institute I have occasion to see many patients from the working class, and I am astonished at the bad condition of the teeth of our bakers. These are subject to caries to such a degree that, since I am acquainted with this phenomenon, I can correctly guess the patient's occupation in many cases from the destroyed teeth.

CHLORO-PHENIQUE IN DIPHTHERIA.—Dr. W. N. Bahrenberg, of St. Louis, in a letter dated October 31st, 1892, says :

In twelve cases of scarlatina accompanied by diphtheritic sore throat, treated by me recently, I used a spray composed of equal parts of chloro-phenique and water as a topical application. It caused an immediate cessation of fetor and gave great relief to the patient. Convalescence was rapid in every case. I have also used chloro-phenique as a gargle and mouth-wash, and as a spray in otorrhœa and ozœna, with uniformly good results.

Insects generally breathe through special pores in various parts of their body, and if these pores are closed by oil they are suffocated. Any one may test this by dropping sweet oil on the thorax or back of a wasp; it very soon dies. For this reason oil has been found one of the best things to use for the destruction of insects.

Salitonia, though a new preparation, has already established its worth. It occupies a place beside campho-phenique and chloro-phenique.

OUR MONTHLY GOSSIP.

By *W. E. Blakeney, D.D.S.*

A WORD may change a life.

MISANTHROPEs are made by introspection.

IT IS BETTER to think of our mercies than of our curses.

EVERY HOME has in it the food on which characters are nurtured or disordered.

IT IS NOT important when and by whom nitrate of silver was first used in dental practice. Will it arrest decay? and is it a reliable obtunder? are vital questions in which the profession is most interested.

"IT IS NOT the bacteria which cause trouble in the oral cavity, but their product, the ptomaines," says Dr. Thomas Fillebrown, of Boston. This is comforting intelligence and would be gratefully received by the bacteria were they capable of understanding the assumed fact.

IN SPEAKING of bridge-work, Dr. Morgan wisely says: "A bridge that has more than one tooth beyond its points of anchorage is, in my opinion, a very risky piece of work." This has been my experience, and I believe it to be the legitimate outcome of all operations in this line of practice.

DR. CHAS. B. ATKINSON says: "There is great comfort in the use of phenate of cocaine in extracting." His method is to dry the gum about the tooth and apply a small pledget of absorbent cotton wet with the phenate of cocaine in fifty per cent. alcoholic solution. In about five minutes test the gums by puncture.

THE EDITOR OF *Cosmos* says "that a general familiarity with bacteriology and insufficient familiarity with the dental aspect of it, is an illustration of fantastic mental gymnastics." And yet many of our dental journals are often crammed with just such fantastical exhibitions. The fact is, these infinitesimal atoms of organic life are being magnified into too much importance nowadays.

WHEN an efficient tonic preparation of iron is to be taken by a patient, the formula of Dr. G. W. Weld, known as syrup of iron chlorid, is to be preferred to the pharmacopeial preparation, as it is not injurious to the teeth. Dentists should therefore insist on its use. The dose is one tablespoonful diluted with three times its

volume of cold water. It acts as a diuretic, and has no equal as a prompt remedial agent in many cases of anemia, erysipelas, diphtheria and neuralgia.

DR. HUTCHINSON, an English dentist, speaking of the upper wisdom teeth pressing on the lower gum, says that "his experience is that it is better to extract the tooth than to grind the cusps because the tooth would continue growing down." Very much reflex irritation is caused by this condition, and the removal of the cause of it becomes a necessity.

TO MAKE PLASTER set hard, the *American Druggist* says: "Mix best plaster of Paris with about one-tenth (according to effect ascertained by preliminary experiment) of very finely powdered marble dust (calcium carbonate), or add to it about six per cent. of powdered alum, or about the same amount of ammonium chlorid, before mixing with water."

WALTER H. NEALL, D. D. S., in the *Dental Office and Laboratory*, contends that "mistakes in dentistry now are criminal, and that a dentist who destroys a pulp when he ought to know that it can be saved, or who, knowing it, has not made the effort, or who extracts a tooth needlessly on the patient's solicitation, is committing a misdemeanor." True enough, my dear boy, but who is blameless?

DR. A. W. HARLAN read a paper before the American Dental Association entitled "Europhen Trichlor-acetic Acid," etc., in which he indulged in a *lucid* quotation from F. Golden. This, in part, reads as follows: "The process of making europhen, which is obtained by the action of isobutyl-alcohol on *o*-cresol in the presence of chlorid of zinc at an elevated temperature, producing isobutyl-cresol. This is then acted on by iodine in potassium iodid, the resulting iodine compound being isobutylorthocresoliodid," (Great Scott!) "or europhen, an amorphous yellow precipitate, which, separated by filtration and cleansed by washing, is dried, with exclusion of light at an ordinary temperature."

RECKLESS and unwarranted surgical operations have become so numerous in our day that a protest against them, published in the leading daily journals, seems exceedingly telling and timely. The number of deaths from these operations, in the city of New York alone, last year, was one hundred and thirty-three. Going into the depths of the brain after an abscess, entering the lungs to scrape tuberculosis excavations, and wandering at their sweet will in the recesses of the abdominal cavity, may afford exquisite pleasure to

heartless surgeons, but are not likely to conserve the patient's health. It is high time a halt was called to this kind of inhumanity.

A NEW anesthetic has made its appearance, called Eugenol-acetamid. It is prepared as follows: Mono-chloracetic acid is acted on by eugenol sodium, when eugenol-acetic acid results. By treating the latter with alcohol and hydrochloric acid gas it is converted into the "ethylester" of eugenol-acetic acid. Strong alcoholic ammonia converts this into eugenol-acetamid. As crystallized from water it occurs in lustrous scales; from alcohol in fine needles; melting at 110° . This compound, when applied in the form of a fine powder, produces local anesthesia without any caustic action, similar to cocaine. This anesthetic effect, in connection with the strong antiseptic properties of eugenol-acetic acid, secures a place for it in the treatment of wounds.

DR. J. D. THOMAS, in speaking about supernumerary dentition in the cuspid region, cites the following case in his practice: A lady presented herself complaining of distress from swelling and soreness in the region of the left superior cuspid. She had worn a full upper denture for a number of years, and could not remember whether the "eye tooth" had been broken or not. On operating, a cyst was discovered which was found to contain nine separate formations of tooth substance, as though the original tooth germ had exploded and each fragment had taken to itself enamel and dentine. One was a typical supernumerary tooth, perfectly conical in shape and half an inch long. The others were of various shapes and sizes, but on one end of each appeared perfectly formed enamel.

DR. JOSEPH PARKER, of London says: "I hate smoking. From end to end it is a nuisance. It ends in cancer, apoplexy, bad temper, bankruptcy and almost in hydrophobia. It is an invention of the devil. It is the pastime of perdition" (where brimstone is smoked instead of tobacco, I suppose). "No dog smokes; no bird pines for tobacco; no horse is a member of a pipe club; no intelligent person ever puts a cigar in his mouth. The whole idea and practice of smoking must be condemned as atheistical, agnostical and infinitely detestable. Smoking *has been abandoned by all reputable persons and left to ministers, editors,*" (how about my friend, Dr. Welch?) "*poets and other intellectual confectioners.*" Well, if smoking is responsible for all these evils, and is only indulged in nowadays by the outcasts of society represented in the professions named by this English wit, my last cigar shall end in smoke. Does yes moind thot!

QUESTION BOX.

With Replies From Our Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

Question 70. *A girl seven years of age broke the left upper central, at gum margin, by accident. The pulp was removed and root canal filled. The tooth was only two-thirds erupted, and I am anxious to know if the tooth will fully erupt in this condition. When should it be crowned, now, or after the other incisors are fully erupted?*

It will not fully erupt. Crown as soon after full eruption of its mate as possible.

A. A. Cook, Utica, N. Y.

The tooth, being dead, I think will never be fully erupted, and I should proceed to crown at once.

J. P. Collom, Midland, Tex.

My opinion is, the tooth will never be the length of its mate. Should defer crowning till the others have assumed their full growth.

A. A. Hazeltine, New Bedford, Mass.

I would make a temporary cap for the broken tooth, and leave it till the centrals and cuspids have fully erupted. I think the broken central will erupt; then cap with Richmond crown.

R. W. Allan, Monticello, N. Y.

I would not expect further development of the fractured incisor. I would allow it to remain, as at present, till the other incisor has fully erupted, and then crown. It could be brought down to its proper place by the application of constant force, but I think crowning will be more satisfactory.

Jno. Coyle, D.D.S., Thomasville, Ga.

I think it will erupt normally unless there was so great violence as to produce para or pericementitis, and consequent impairment of nutrition. Should this have been the case the tooth will be exfoliated, or a condition obtained simulating a cicatrix to prevent eruption. I would crown at once, if only for appearance sake, and await the issue.

W. S. Elliott, D.D.S., M.D., Sag Harbor, N. Y.

Am unable to say whether or not the tooth will further mature, since the nerve has been removed. It must be crowned now if you wish a crown of natural size. To defer crowning will permit the space to lessen so a full sized crown can not be used later. I know a case of just this kind, where the tooth has been preserved over twenty-five years. It has had two crowns—first a pivot, then a Logan.

L. H. Henley, D.D.S., Marshall, Tex.

When pulp dies tooth development stops. When the other central is fully erupted crown temporarily, provided the root can be maintained in a healthy condition. When lateral is fully developed, and the root of broken central removed—which will be the result, then replace with bridge by banding lateral, letting band come well up on palative side, cutting back well at labial aspect; let band pass under free margin of gum; attach to band a

tooth to fill the space. In some cases it is well to fit a spur to rest against the palative side of the remaining central. I have a case of this kind that has not required attention in four years, and is now in good condition.

J. H. Murphy, Flatonia, Texas.

Question 71. *A young man of good constitution and habits, aged twenty-one, takes good care of his teeth, but finds they are suddenly beginning to decay at the labial gum margin. Starting with the upper centrals a faint yellow stain appears, which, if scraped, proves a softening of tooth structure; is quite sensitive, and gum recedes from each tooth after it is first attacked. What is the cause and the treatment?*

Acid condition. Use lime water systematically. *A. A. Cook.*

I can not give the cause. The green stain should be removed with polishing wheel, and if cavities appear, fill them. *J. P. Collom.*

I would advise the patient to wash the teeth well with lime water for the sensitiveness. I have never been able to discover anything to prevent the recession of gums. *R. W. Allan.*

Abnormal acidity of the fluids of the mouth. I can not say what acid it is. Treatment: Neutralize the fluids; prescribe alkaline washes; free use of precipitated chalk; keep teeth thoroughly clean; prepare and fill cavities with gold or gutta-percha; touch margin of gums once a day with tincture of iodine. *J. H. Murphy.*

I am not positive as to the cause, but know the application of nitrate of silver will arrest it. The silver turns the dentine dark, and it must be removed in preparation for filling. I know of no treatment that will obviate the necessity of finally filling in such cases. *Jno. Coyle, D.D.S.*

I do not know. I should try nitrate of silver to harden the dentine, and afterward fill if needed. If very superficial, filling will not be required. The silver will cause it to become dark, but I know of nothing equal to it for the trouble. *A. A. Hazeltine.*

Softening at the necks of teeth as observed, is, I believe, a manifestation of constitutional impairment, which, at the age of twenty, may find its first inception. A "good constitution" is often illusive. Family history should be taken into consideration. The sudden onset, as stated, may be the precursory stage of decline in vigor, which "good habits" may hold in abeyance. For treatment I would suggest the topical application of nitrate of silver after the method of Dr. Stebbins, or, if this is objectionable, polish the soft places with putty powder (oxide of tin) and put the patient on a course of lacto-phosphate of calcium, either in granules or as combined with the many proprietary products of the scientific pharmacist.

W. S. Elliott, D.D.S., M.D.

I can not define the cause, but suppose it to be caused by the action of regurgitating acids from the stomach or probably a hereditary taint—very likely both. All decay in teeth is accompanied by a specific germ, which thrives where conditions are favorable, as can be proven by application of nitrate of silver, in the case just cited, which will destroy the low form of animal life and the decay will not advance for a considerable time, though

the cavity be not filled. A cement filling can generally be used to advantage for a few months in such a cavity, then it may be filled with gold with much confidence of success. The same cause that produced the first decay and cavity will most probably produce others in the same neighborhood.

L. H. Henley.

Question 72. *If a small portion of pulp, exposed in excavating, is touched with sulphuric acid or lunar caustic and washed with water, what will be the result after the cavity is filled? Will the pulp die, or remain in a normal condition? I have had no bad results from this treatment, but would like the opinion of others.*

Pulp will die within six months.

A. A. Cook.

My experience is that exposed pulps usually die under the filling, and give trouble, treat them as I may. I have had some success and many failures.

J. P. Collom.

My success in capping nerves has not been good, though some have lived and are doing well. Those that did not do so have been more numerous than gratifying, and have brought me over a rough way by night and day. I will henceforth select good-natured patients for the capping business.

L. H. Henley, D.D.S.

The result would be variable. In some cases the cauterization would stimulate the pulp and its vessels to increased vitality, resulting in the formation of secondary dentine, and then reinclosing itself in bony walls; in others there would be over stimulation and the nerve would die; in some instances giving no trouble for a number of years; in others the usual symptoms of periodontitis would show at once, thus revealing the true state of affairs.

Jno. Coyle, D.D.S.

I have had several cases where pulps have protruded into the cavity of the tooth, and have treated them with lunar caustic, capped with heavy gold foil and filled, with no serious results. Gum of one was badly inflamed, which was about two weeks after the filling. It was painted with iodine, with no recurrent trouble. Have never opened any teeth treated in this way, and could not say whether they remain alive or not. The teeth are not discolored.

R. W. Allan.

When there is no lesion of the pulp other than simple exposure, the treatment mentioned is scientific. Either sulphuric acid or nitrate of silver is superficial in its chemical reaction on the pulp, and has the effect of coagulating the plasma, thus favoring a protective covering. Wood creasote has proved effectual. A paste of creasote and oxide of zinc is convenient to handle if placed on the concave side of a small cap of lead, and laid directly on the point of exposure. Care should be taken that no pressure be brought on the cap in the operation of filling.

W. S. Elliott, D.D.S., M.D.

The pulp will die. The tooth may remain comfortable for quite awhile, but trouble will surely come. If I should attempt to preserve the nerve, I would wash the cavity with peroxide of hydrogen, protect the pulp by capping with disk of thin paper coated with chlora-percha. Apply as many of these disks as may be required to protect; flow over this cement; finish filling as indicated. If the tooth has given pain from indirect or near

exposure of the pulp it will be good practice to devitalize. It is sometimes difficult to draw the line between nerve capping and devitalization. I give the benefit of doubt in favor of the latter.

J. H. Murphy.

Question 73. *If you do not understand a case, is it best to acknowledge it to your patient?*

It requires more pluck to acknowledge your ignorance than to try and "bull-doze" your patient and yourself into a half-way belief that you are master of the situation. If you fail to understand a case, be man enough to say so every time, and your patient will respect you for it. The use of high-flown language sandwiched between professional dignity and *supposed* causes and effects takes with the ignorant, but when a dentist tries to convince a sensible man, of knowledge that does clearly exist in his own mind, his argument, if lengthy (which is apt to be the case), becomes contradictory and rather flat. Be a man, and don't know too much when diagnosing a case that is obscure or doubtful.

Question 74. *What is your best method of treating and capping exposed nerves that have given no trouble except to note thermal changes?*

Answers touching this subject have appeared in back numbers. There are many methods used, and the best is that adapted to the case in hand. Bristle board, cork, lead, sponge asbestos, gutta-percha cones of tin, platina, silver, gold, and various plastic mixtures prepared for the purpose are used for covering after the exposure has been properly treated with antiseptics and germicides. The object of a capping is not wholly to prevent pain from thermal changes, but provision must be made to protect the pulp from pressure exerted in filling, and the selection of a method must be regulated by the locality of the tooth; the condition of tooth structure; the amount of exposure and the shape of cavity, or that into which it may be formed by judicious cutting. Teeth in the condition you mention require but little treatment, and usually can be successfully treated by protection (of pulp) from pressure and the use of any good non-conductor. Many articles appear annually on this subject, and as opinions greatly differ we have not space to review them here.

Question 75. *When nerve canals are of a size that nerve broaches will not enter, what method do you pursue to obtain remaining portion of nerve? Would the remainder cause trouble if left thoroughly antiseptic and capped with some non-irritating substance, or can they be digested by digestive ferment?*

When pulp canals are too small for a broach to enter, we often enlarge with Gates-Glidden drills—hand instruments. Pulp canals that are quite contracted at the entrance are often much larger toward the apex. Some branched or crooked roots, and often the lower molars have small canals, and it is sometimes preferable to disinfect and fill rather than to attempt drilling to the extreme end. Iodoform mixed with chloro-percha has never failed us in cases of this kind. Root canals are often filled where doubt exists of reaching the apex, and if properly treated there is seldom trouble; but all portions of root canals should be reached, if possible, and there is generally but little excuse for a failure.

EDITORIAL.

THE NOMENCLATURE OF THE TEETH.

The more simple and uniform we can make the naming of the teeth and their several parts and positions the better.

Is not dentistry better than "oral surgery," and teeth better than "oral organs?" Is not mouth better than "oral cavity," and roof better than "palate?" Is not jaw better than "maxillary," and upper and lower better than "superior and inferior?" Well, we suppose, for variety's sake, these homely terms might very properly be replaced by these "more scientific" phrases, and yet, as a rule, the plainer our language the better. A man on stilts the other day spoke of his lady friend's "beautiful denture," not, for a moment, intending to intimate that she had artificial teeth. Yet she could not have had "a beautiful denture" unless some dentist had made them for her.

Are not incisors (to cut), cuspids (with one cusp or prominence), and bicuspid (with two cusps), good enough? And yet to designate these same teeth we hear of "cutting teeth," and "canine teeth," and "eye teeth," and "stomach teeth," and "premolars," and "small molars." Why speak of "grinders," and "masticators," while we have the all sufficient term *molar*? And are not the first, second and third molars sufficient without speaking of "six" or "sixth" year molars, and "twelfth" year molars, "wisdom teeth," and (what a jaw breaker), "*dentes sapientiae*?"

Why speak of superior and inferior teeth? Are not upper and lower teeth quite as good?

So in describing the different surfaces (must we say aspects?) of the teeth. Are not front and back surfaces better than mesial and distal? Are not outer and inner surfaces better than labial, buccal and lingual aspects? Is not proximal better than approximal? And are not the upper and lower more in apposition than "opposition?"

Is not the term temporary teeth better than "first teeth," or "milk teeth," or "deciduous teeth," or "infant teeth?" Are not front and back teeth as good as "anterior and posterior?"

PAINLESS DENTISTRY.

We happened into a dental office a few days since while the dentist—a lady—was filling some teeth for a child six years old. Her mother had taken her to another dentist where the pain had been so severe she would not have the work done, but here she was happy under the operation.

But you say, "Oh, children are so nervous and fidgety, a slight pain frightens them, and often the mere manner and tact of a dentist make the difference."

Often this is so, not only with children of tender years, but with other children of mature years; and, therefore, it behooves the dentist to be very kind and considerate.

"That man's presence is as good as sunshine—as good as medicine,"—said a patient, concerning her physician. This should be so with the dentist.

This child had evidently suffered severe pain under the first dentist, but was suffering none under the second. The tooth the lady was filling when I entered the office was badly decayed, and her mother said it had been a constant annoyance for weeks, especially while eating.

"The first dentist admitted," said she, "that it was very tender and that the nerve was almost exposed, and that, of course, it hurt badly, but he could not help that. 'Every child must learn to endure pain,' he said. And," the mother said, "the tears rolled down the child's cheeks and she became so feverish and overcome that he had to put in a little wax and dismiss her. During the night she waked up with such a high fever and chill we had to send for a physician and it was morning before he could leave her. But here she actually enjoys the same work."

The little girl had four teeth filled and got down out of the chair laughing.

"If I could have my teeth filled like *that*," said a little boy who had come with his mother to the office, "I'd have mine filled too."

"You can," chimed in the radiant dentist. "Jump right up into the chair and see if I don't treat you royally."

Up he jumped, and in less than an hour his "naughty teeth," as his mother called them, were filled and he was happy.

"Well," said the mother of the little girl, "If I thought you could do as well for me I would really have *my* teeth filled, but all my father's family have exceedingly sensitive teeth and we neglect them on this account."

"Mamma, dear, it won't hurt you," said the little girl; "it didn't hurt me."

We left her in the chair enjoying the excavation of her carious teeth.

No wonder that lady had plenty of work to do. There is not a dentist within twenty miles of her who does not envy her of her reputation and of her practice. For she even extracts teeth without pain.

GROW.

If mere willing could make men illustrious, how many would attain distinction; if men could become famous at a bound, how many would jump; if money could buy greatness, how many would spend for it a fortune. But success in anything worthy of our best endeavors comes of daily, tedious, painstaking, personal application. Even with such a struggle, improvement comes so slowly that to appreciate it we may have to compare our present with long distances of the past. Even then, if we begin to take satisfaction in our advance, we find in us so much of ignorance and blundering and weakness, and so much that is desirable above and beyond us, that all boasting is lost in shame-facedness at what we are.

Yet, as slow as our progress may be, and as discouraging as our present may appear, we should be stimulated to grow; and we should not be satisfied without a consciousness of doing our utmost to make that growth strong, healthful and symmetrical. A puppet, a dolt, an ingrate, may be satisfied with what is, and with what he is, but a *man* must grow. The very appetite and aspira

tions of his nature urge him to growth. The brute has but one appetite—to satisfy his body; the man who would rise above the brute has an insatiable hunger for mental and spiritual food. And as he eats he grows. Let egotists, coxcombs and dudes, gormands, sots and libertines, misers, cynics and epicures live only for and in and by the present; they have no future to hope for, and no ambition for a better life. The sooner their self-complacency and self-indulgence kill them off the better for the world. But sensible men deserve long life that they may grow.

LIFE AND SUCCESSION OF LIFE.

There is a something in the very rock that holds together its particles with a powerful grip. These particles are not single elements, but combinations of elements, brought together in the most delicate, definite and fixed proportions. The rock has a distinct circulation; between each molecule is an inhabited world, with air and sky and mist and rain; and there is a something that gives to all this perpetuity and balance and atomic regularity and continuity of motion, as of worlds.

Yes, the rock has its old age; but it dies to live again. From whence comes the higher life of the vegetable, if not from the soil? And what is the soil but dead stone, disintegrated and refined, so as to be prepared for a new life?

What a wonder of life force there is in the germination of a seed! But this is only the new life of the rock, with a higher life added. What but this sensitive and instinct life and power enables the seed to burst its shell, and make for itself tiny antennae, to reach down for its first breakfast, and soon, with its springing antlers, to reach up and break its prison walls? It is very delicate in its first meals and in its first work. But look again. Now it can eat more and do better. It has a thousand little tongues sucking up dissolved rock, and strong arms uplifted to move away the grave-digger's clods. In a few days it lifts its head and looks at the sun. Then how it grows! From more than 90,000,000 miles the sun comes to give it vigor. Say you this is not life? Yes; complicated

life, compared with the life of the rock ; but still more complicated is the life above it.

How cruel for the ox to eat this proud little life all up at a mouthful ! It had just come to its first flower, it would soon have fruited. Such is life. As the grass eats the rock, the ox eats the grass, and we eat the ox. But by this the rock is lifted to the vegetable, the vegetable is lifted to the animal, and by and by we shall be lifted to the spiritual. We can easily see these spheres below us, but how much faith it takes to get a glimpse of a single sphere above us.

Do you say the rock is lost in the vegetable ? No ; it only enters a new life, higher and more refined. Do you say the vegetable is lost in the animal ? No ; it only enters a still higher, more refined, and more sensitive life. Do you say the animal is lost in the spiritual ? No ; it only enters a still higher life, nobler and more refined,—mysteriously, wonderfully, radically changed. The rock is no longer rock, but its new combination is something better ; the molecules of the vegetable are no longer vegetable, but they have taken a more vital form. There is death to each sphere, that there may be a resurrection to a better. *We* shall die to our present sphere that we may rise to a better. With the same body ? Has the vegetable the same body as the rock ? Has the animal the same body as the vegetable ? God has given to each transformation a body as it has pleased Him. Our body dies a natural body, it is raised a spiritual body.

We speak of our body as complex. So it is. But it is well sometimes to come down to a little detail. We say the brain is the seat of mental life, that the heart is the center of physical life, and that the ganglionic system is the seat of the passions. But really, is not life in every part ? Have we not even atomic life ? As the atoms of the rock are not killed by entering into vegetable life, nor the molecules of the vegetable killed by entering into animal life, so the atomic life of our food is not killed by becoming a part of us. We admit chyme is a low condition of life, and that chyle is only a little higher ; and that even when this is sucked into the mesentery absorbents it is yet of low vitality. But each stage

brings assimilation till it becomes the vital current of the body. Atom life becomes molecular life, molecular life becomes plasma life, plasma life becomes granular life, granular life becomes systemic life,—life in the concrete—the life of the whole. But when we come so far up in the scale as human life, we find the grand triune wonder of “spirit, soul and body.”

THE MOTIVES THAT SHOULD INSPIRE US.

There are two motives for doing well, and there is no reason why they should be separated. The hope of reward and the consciousness of doing good. “Happy are they that die in the Lord, for their works do follow them,” is a stimulous from the Word. Works that are only selfish produce selfishness, and selfishness knows at the very life of happiness; it is the leach crying, “Give! Give!” But when the motive for game is the getting and doing good, “it is more blessed to give than to receive.” The man who does not know this thrill of pleasure had better give till he experiences it. Selfishness dries up all the sweet juices of our nature, but a free heart swells with its increase, making such a bounding life that to find avenues for expending it is a pleasant relief.

Ben Adam had a golden coin one day,
Which he put out at interest with a Jew;
Year after year awaiting him it lay,
Until the doubled coin two pieces grew;
And these two four—so on, till people said,
“How rich Ben Adam is!” and bowed the servile head.

Ben Salem had a golden coin that day,
Which to a stranger, asking alms, he gave,
Who went rejoicing on his unknown way;
Ben Salem died, too poor to own a grave,
But when he gains his rest, angels with pride
Shall show the wealth to which his coin has multiplied.

Is this good doctrine? Dr. T. P. Hinman, of Atlanta, says: “The cause of an alveolar abscess is the presence of a dead pulp. When this is removed the effect must, of necessity, cease.”

THE OUTPUT OF OUR COLLEGES.

Probably there was never a time when there were more dentists in the United States in proportion to the inhabitants than now,—and, probably, there were never more really less competent. We believe there is a gradual change for the better, but while the transition is going on from an education in a dental office to an education in a college, extremes meet. The office boy crowds his way to the operating chair and begins to fill teeth well, and somehow makes his artificial teeth fit well; and the college boy comes home on such high stilts that he tumbles about most promiscuously. The one has practice and no theory. The other has theory and only little practice.

This present crowding is lowering the price of work by *necessitating* the many to have work at any price. Their first excuse is that they want practice for experience, even if they work for nothing; and then they want money, if they have to work for low fees, but promising themselves they will get more by and by.

Dr. W. W. Allport, in the *Dental Review*, says that dentistry is by no means the lucrative calling that many suppose it to be. Out of nearly seven hundred dentists in Chicago he challenges any one to name five who are doing a business of over \$15,000 a year, ten more who are doing over \$10,000 a year, and twenty more who are doing more than \$5,000 a year, while there are large numbers whose net income does not reach \$1,000. The chief reason for this he finds in the horde of improperly educated graduates annually turned out of the dental colleges. The majority of them are not in reality qualified to practice, and to live they resort to methods which lower the standing of the profession and reduce the profits resulting from its practice.

THE ENGLISH DISEASE.—The poor, unenlightened Mohammedans of Damascus, who couldn't be expected to know better, call drunken men victims of "the English disease."

NOTES.

Promptness, system and thoroughness accomplish wonders.

* * *

Do not be persuaded to extract a tooth because it is less trouble than to save it.

* * *

It is hard to do as you would be done by in dentistry, for the dentist frequently does what he never would endure himself.

* * *

Impacted wisdom teeth often require skill and caution in their removal. They are sometimes, too, a source of intense agony to the unfortunate possessor.

* * *

Prof. Miller comes to the conclusion, from his experience, that smoking tobacco brings about an affection of the mucous membrane of the mouth, for he has mostly found this in patients who were habitual smokers and well-to-do, but never in non-smokers and women. In one case he effected cure by the prohibition of smoking.

* * *

It is a pity to see such a standard magazine as the *Cosmos* so injured by a short-sighted economy as is presented by its present paper and printing. Heretofore it has been a model of typographical beauty, and the paper the best used by dental magazines. It is not because the publishers are running behind in resources, and it cannot be because its supervising editor is unappreciative of public taste.

* * *

In regulating teeth we must take good account of the general make-up of the individual, and especially of the formation of the features and jaw. Some people are irregularly made up any way, and in spite of everything we can do for them they will remain so. All the interference of surgery and religion will not regulate them. Oh, yes; as the gospel may somewhat smooth down their sharp angles without destroying their individuality, so the position and general appearance of the teeth and jaw may be somewhat modified. But some persons seem to be put together for a particular purpose; their very appearance and manners, and their special make-up show it, and we cannot greatly change the general design without spoiling the pattern.

THE IDEAL DENTAL BASE PLATE.—Frank Marine, of Chicago, says this is plastic as wax, rigid as metal, fits like a glove, does not “crawl” from the cast, nor soften under the heat of the mouth. Held in boiling water for a few moments it softens, and can be moulded easily to fit the most minute inequalities of the cast. It hardens in a few minutes, and then is inferior in stiffness only to a metal plate of same thickness, retaining its shape unchangeably. When soft it is easily cut, when hard trims to any form with a file, even to a feather edge.

* * *

We have little power to assimilate minerals taken as mere separate chemicals. It is principally by their being assimilated first into vegetable life that they are capable of becoming an integral part of our animal economy, they are made still more easily digested by us if they come from the vegetable through the higher organization of the lower animals. The flinty rock becomes the silica of the teeth by becoming first the silica of the wheat. Iron is hard to chew, and almost as hard to digest as a powder, but presented as beefsteak it easily enters every tissue of the body.

* * *

The nimbleness and dexterity of a skillful dentist is wonderful. The very instruments and gold he uses seem alive. As he stands behind them they obey his will so promptly and with such precision they seem a part of himself. Ah! it is fun. Young man, would you attain such an enviable position? Work for it with brain and muscle; sacrifice for it every foolish habit, every nonsensical indulgence, every hindering pleasure; give your life for it, bury yourself in its necessities till you can come forth transformed by the regenerating power of study and delicate manipulation.

* * *

The practice of welding gold in a flame while filling is reprehensible. Some carry it to the extent of thus welding nearly all gold they use. Perhaps a worse quality of foil could not be produced. In fact, much ceases to be foil; it is fairly melted. It is impossible to carry gold foil through a flame and have anything like an even annealing. The leaf and pellets and ropes, etc., now come from the depot in such variety, from non-cohesive to the most sticky cohesion, that it is seldom necessary to anneal at all. If it is desirable, the better plan is to anneal on a metal tray, equally heated to the desirable degree. In this way it is easily picked up, and is varied in quality by the heat.

OUR PATIENTS.

A beautiful room,
An elegant chair,
A man with a smile
Awaiting you there.
A cab'net at hand,
Elegant—grand.
Beware! Beware!

That elegant chair
Has springs and a crank;
The man with the smile,
His pocket looks lank;
'Neath that cabinet's frills
Are saws, tweezers, and drills.
Take care! Take care!

"Oh! Ouch! My gum!"
Says the man with a smile,
"Come, my friend, come,
Let me comfort you awhile."
Oh! I dare not go—dare not run!
Whiz rat-a-tat, whir-r-r rat-a-tat, "Done."
"Amen." "Five Dollars?"

[The experience of Rev. W. S. Marquis, of Cincinnati, in Dr. McCandless' office.]

IS IT A DISGRACE TO WORK FOR SERVANTS ?

As we entered a dental office the dentist was dismissing a young lady with the remark, "Please tell Mrs. Jones I could not give you an appointment; I am too busy."

As she shut the door, he said to me, "It is provoking for me to have to turn off these servant girls so often. My patrons ought to know better than to send them."

"Why," we said, "this did not look like a servant girl; she was quite a lady."

"Oh, no; she works in some capacity for the lady. I did some work for her yesterday, and I suppose she thought I worked for everybody. If we would have an æsthetic, popular, lucrative practice we must draw the line somewhere, and that is where I draw it. I will not work for servants."

"But does not this often give offence?"

"No; not often. Most of the high-toned families I serve like it. There are some I would as soon offend as not. There is nothing like appearing dignified and independent."

There was a time when that young man would have been glad to have as patients any number of such nice appearing young ladies.

This occurrence took place about ten years ago. We passed around to his corner the other day to speak with him, and the place was closed. He had gone to cheaper quarters. Let us hope, too, he had learned a lesson in true democracy.

THE SOURCES OF GOLD.

Primary rocks, of which granite is the most common type, are not metaliferous. Some ores, especially iron, are often found among them, but are not of them. Indeed, there is reason to suspect an origin of all metals after the granite surface had cooled to a degree to permit the formation of aqueous rock deposits. Volcanic eruptions, which are supposed to proceed from a depth of about forty miles, rarely have metals of any kind in their lavas, and it seems reasonable to suppose that if they existed there they would be thrown out to some extent at least. All metal deposits are found in what may be called the crust of the earth, and the material of this is not of igneous origin. How they came there and from whence is a problem that scientists have not yet solved.

Gold is always found pure, and has no known ore. A common matrix is quartz, but such rock by no means indicates presence of this metal. Its existence here is, geologically considered, of very late date.

It is found only in what may be called surface deposits. And in localities wide apart. In this respect it is similar to our diamond mines, which are deposits without order or arrangement. If gathered by aggregation of atoms through electrical agencies, like most metals, it must have a source somewhere from whence it is drawn. And yet such sources are unknown.

STORE TEETH.

"Be you the dentist man?"

"Yes, sir. What can I do for you?"

"Waal, I want tew git a pair o' teeth. They're all the style out our way."

"Sit down, sir, and I'll take the impression of your mouth."

"Oh! you needn't bother measurin'. Jest pick out a pretty good-sized pair. They hain't for me, anyhow; they're fer mother."

HOW TO GET YOUR PAY.

A big bell vigorously swung by a small boy, quickly drew a large crowd at Derby town post. Dr. E. L. Jocelyn, an ex-dentist, and at present a pawnbroker, was about to carry out his advertised intention of selling a set of artificial teeth that were being worn by a Derby man. Jocelyn soon appeared and addressed his auditors as follows:

I am about to sell, as advertised, at public auction at the town post in Derby, a full upper and lower set of false teeth now in the mouth of Henry A. Bradley, of Derby. The terms of the sale will be one-half cash or good, negotiable security, and one-half in a note at 99 years, without interest.

The bidding began at ten cents and slowly advanced, the auctioneer warning each bidder that he would hold him to his bargain. The teeth were sold for twenty-three cents to John Grady, who had drifted across the street to see the fun.

Jocelyn claims that, inasmuch as he had never been paid for the teeth, he had a right to dispose of them in any manner that he desired, and that Grady will be the sole owner of them as soon as the note for 11½ cents is properly executed.

SWALLOWED HIS TEETH.—At half-past three o'clock this morning there was great alarm and consternation in the United States Hotel, on Fulton street.

Captain William F. Humphreys, a salesman, who occupied one of the rooms on the fourth floor, went to the rooms of Dr. L. A. Brown, on the second floor, and vigorously rapped at the door.

Dr. Brown, who was awakened from a sound sleep, asked: "Who's there?"

"It's I," said Captain Humphreys, "and I am choking to death. I have swallowed my false teeth."

After probing the man for half an hour and ringing for an ambulance, Dr. Brown found the teeth under the bed. The fright will cost him ten dollars.

"I've an aching old snag here, I've been waitin' six weeks to hav' it jerked out," said a caller.

"Will you take gas?" replied the dentist.

"I am not much used to gas. Can't you use karosene?"

GENERAL WASHINGTON'S ARTIFICIAL TEETH.

John Greenwood, who established himself in New York five years after the close of the Revolution, was the first American who distinctly practiced the profession of dental surgery. He carved out of ivory a set of teeth for General Washington, in 1790, and another set in 1795. In a letter which has been preserved, "The Father of his Country" complains, in a dignified way, that his teeth hurt him and do not very satisfactory serve the purpose for which they were designed. He complains of their "bulging out the upper lip," and "causing the jaw line to protrude, giving the face an unnatural appearance." His plates were secured by spiral springs; and, though clumsy, ugly, irritating things, ridiculous as compared even with such a denture as a poor washerwoman could now procure for five dollars, they were then regarded as a triumph of dental art.

"Modern Dentistry," in Demorest's Family Magazine.

HER BABY'S FIRST TOOTH.

This is a day of odd conceits. The other day a young matron was proudly displaying a new ring just sent home from the jeweler's. It was a gold band with a raised setting, in which was what looked like a very white pearl, although rather opaque. Speculation about it was finally set at rest by its owner, who proudly stated that it was "Claribel's first tooth," Claribel being her only child, a little miss of four summers. When the tiny grinder fell out it was taken to a jeweler, who cut off the root, shaped and polished it, and mounted it as a ring. "And no jewel could be half so precious!" said the doting mother.

"My!" said Mr. Miller to his wife, "what is that tremendous sound as of a grinding, rumbling earthquake? It sounds like pandemonium let loose."

"I believe," said his wife, "it is either the great stone crusher grinding cobblestones, or the dentist next door buzzing a hole in a man's tooth. I think it is the latter, for it sounds just like his millstones in my tooth yesterday. I thought he was preparing me for the infernal regions."

BOOK TALK.

DR. OTTOLENGUI'S "METHODS OF FILLING TEETH."

This book is not intended to be a cyclopedia of operative dentistry; does not aim to be considered a repository of all the available information in that broad field, and in that view it may perhaps appeal but feebly to the intelligence of those dentists who are in the front rank of operators.

Its real aim is to describe in clear, plain language practical, successful methods of filling teeth under almost all circumstances, for the benefit especially of those whose experience has not covered all phases of dentistry. And this is the standpoint, as indicated by the author's preface, from which its teachings should be judged. Dr. Ottolengui is so distinguished an operator that great confidence can be reposed in his teachings.

We quote his opening paragraphs :

Now that the dentist is no longer to be denominated the "knight of the forceps," it is essential that he who would become a conscientious practitioner should be able to determine whether a tooth be salvable by filling; to decide which of the many materials now in use will best attain this end; to properly prepare the cavity for the filling, and be capable of manipulating his material so that it will be as nearly perfect as possible. This much has been accomplished by many dentists of the past and present. Something more will be expected of the dentist of the future. He will be asked to abandon the assertion: "Madam, your tooth has decayed around my filling, *but the filling was all right.*"

Undoubtedly there are teeth in which it may be impossible to prevent recurrence of decay, but it is equally true that in too many cases when the "tooth decays around the filling" the filling was *not* "all right." It is opportune, therefore, to discuss these questions more in detail than has been done heretofore.

Those whose fillings are frequently returned to them in a leaky condition are compelled to adopt one of two propositions: Either their work is inefficient, or else the teeth on which they have operated are of poor quality. It is but human to lean toward the latter explanation. The position, however, is rarely tenable. The argument used is this: "If the tooth decayed when it was perfect, why should it not do so after it has been filled? I cannot be expected to build better than did the Creator." This sentiment was loudly applauded at a national meeting, leaving the impression on the mind of him who analyzed the situation that there were many present anxious to adopt this specious excuse for the failures which had attended their efforts. The fallacy lies in this: While it is perhaps true that no material exerts any therapeutic influence beyond the mere mechanical stopping of a hole and restoration of contour, it is also true that, given a tooth, and certain conditions under which it is attacked by caries, the caries will occur invariably at a specified situation. Therefore, when the cavity is filled scientifically the tooth is safer than ever, because the vulnerable point is now

occupied by a material which will resist destruction by caries. If decay occurs, along margins, it is because those margins were improperly made either as to shape or position, or else because the filling was unskillfully inserted or finished. An ideally completed filling is one which is given as high a polish as the material used will permit. Those who argue for "dull finish," because less conspicuous forget that "high polish" means smoothness, which quality is a prerequisite.

The student watching his preceptor is almost invariably impressed with the idea that only a few principles are involved, and that the operation of filling a tooth is purely mechanical. As soon as he acquires the knack of packing gold and producing a polished surface afterward, he considers that "he knows it all." It is only after several years of bitter experience at refilling teeth for his own patients, that he begins to suspect that perhaps there is more in this branch of dentistry than his mind had grasped.

A SERIES OF QUESTIONS AND ANSWERS FOR DENTAL STUDENTS. CONSISTING OF THREE PARTS. BY F. J. S. GORGAS, D.D., D.S.S. PUBLISHED BY SNOWDEN & COWMAN, BALTIMORE, AND ALSO ON SALE BY THE WILMINGTON DENTAL MANUFACTURING CO., PHILADELPHIA.

This is a timely contribution to dental literature. The first book for the Freshman's course is easily digested, but gives a good idea of the foundation work of dental knowledge in anatomy, dentition and a general training. It is a fine preparation for college life. Book second takes up these subjects in a more advanced aspect, adding two or three departments; and Book three in a still more thorough manner treats of dental pathology, oral surgery and practical dentistry. There are few practitioners who might not study all of them with interest and profit. The Freshman's course is \$2.00; the Junior's course and the Senior's course are each \$2.50.

A good idea of the scope and plan of the work may be had by the following opening page of Part First:

Question. Define anatomy?

Answer. The science relating to the structure of organized bodies.

Q. Define osteology?

A. That part of anatomy which describes the bones.

Q. Number of bones of the head?

A. Twenty-two, eight cranial and fourteen facial bones.

Q. Names of the bones of the head?

A. *Cranial*—1 frontal, 2 parietal, 1 occipital, 2 temporal, 1 sphenoid and 1 ethmoid. *Facial*—2 superior maxillary, 2 malar, 2 nasal, 1 lachrymal, 2 palate, 2 inferior turbinated, 1 vomer, and 1 inferior maxillary.

Q. Give the composition of bones?

A. Organic or animal matter and inorganic or mineral matter.

Q. Give the quantity and composition of each?

A. Organic matter about $\frac{1}{3}$, consisting of gelatin fat and vessels. Inorganic matter about $\frac{2}{3}$, consisting of phosphate and carbonate of lime (calcium), fluoride of lime, phosphates of magnesium, sodium and chloride of sodium.

- Q. What does a transverse section of bone, examined microscopically show?
 A. Haversian canals, canaliculi, lacunæ.
 Q. What are Haversian canals?
 A. Canals for the passage of vessels.
 Q. What are canaliculi?
 A. Minute canals connecting the Haversian canals with the lacunæ.
 Q. What are lacunæ?
 A. Irregular dark spaces arranged circularly around the canals and containing the bone-cell.
 Q. What is the medulla or marrow of bone?
 A. Matter of a yellow color, consisting of fat and extractive matters, occupying the medullary canal, the cancellous texture, and the large Haversian spaces.
 Q. What vessels are found in bone?
 A. Arteries and veins, and according to some authorities, lymphatics.
 Then follows a minute description of these processes and parts.

THE DEGENERACY OF THE JAW AND OF THE HUMAN RACE. BY E. S. TALBOT, D.D.S., CHICAGO. PUBLISHED BY THE S. S. WHITE DENTAL MFG. CO., PHILADELPHIA; ALSO ON SALE BY THE WILMINGTON DENTAL MFG. CO.

This is an exhaustive work. Though much space is given to *degeneracy* of the jaw and of the human race, it contains much to show that excellencies also may be noted; as, for instance, under the head of "Results Arising from the Union of Different Nationalities," the Doctor says:

Mr. C. J. Jones, of Garden City, Kansas, who has produced at least five distinct races of cattle by crossing with the buffalo, says that "each of these races is perfect in every respect. Their flesh is rich and good, and there is a great deal of it. Their milk and butter are of the very best quality, and their fur is glossy heavy and warm." A peculiar part of the experiment in crossing developed the fact that the breeding could not be developed with a Galloway bull and a buffalo cow. The crossed animals have a tendency to look like buffalo rather than like their domestic ancestor, and cases are frequent in Mr. Jones' herd where apparently perfect buffaloes have resulted from the intermingling of the species. The fur comes from the three-fourths and seven-eighths crosses, and even the fifteen-sixteenths cross develops excellent hides. Close confinement deteriorates the health status of a buffalo, showing that these animals will not retain their healthy condition when placed in close confinement.

Breeders are crossing races every day for some purpose, and they expect a few irregularities variably marked in the first generation; but they know that the race will soon settle, while the disorder would only increase if the crossing had taken place between species.

When Dorking fowls, with five toes, are crossed with other breeds, the chickens often have five toes on one foot and four on the other. Some crossed pigs, raised by Sir R. Heron, between the solid-hoofed and common pig had not all four feet in an intermediate condition, but two feet were furnished with properly divided and two with united hoofs.

THE ANGLE SYSTEM OF REGULATION AND RETENTION OF THE TEETH.
THIRD EDITION. REVISED AND ENLARGED. BY EDWARD H. ANGLE,
D.D.S. PUBLISHED BY THE WILMINGTON DENTAL MFG. CO., 1892.
PRICE, 75 CENTS.

The third edition of *The Angle System of Regulating and Retaining Teeth* is just issued by The Wilmington Dental Mfg. Co. This shows the popular esteem of this method.

The following extract will give an idea of his purpose :

We frequently see it stated by writers, and some who would like to be considered an authority on the treatment of dental irregularities, that no fixed system of appliances should be depended on, but an appliance invented to suit the requirements of each case. These statements are erroneous, and are productive of harm, for they serve only to prevent system and progress. Such assertions cannot fail in time to react on their authors. For they will be quoted by future writers to illustrate how defective was their knowledge of the subject.

It is possible, practical, and even easy, to so systematize and classify appliances to a few simple forms, as to meet the requirements of all varieties of cases which are susceptible of treatment.

We know that to attempt to convince those long accustomed to the plan of devising clumsy and unscientific appliances for each case, that it is possible to so systematize and classify appliances to meet all requirements, will meet with little favor.

But when the time comes that teachers will recognize that it is not only possible, but most practical, it will be as easy for students to become proficient in this important branch as that of operative dentistry, or any of the different branches now so successfully taught in our colleges. But the present plan of attempting to make proficient practitioners in orthodontia by teaching them to be inventors of, or selectors of, appliances from the chaotic profusion, many of which are only duplicates of others in principle, serves only to confuse, and must always result in the graduate knowing comparatively little about the subject, and being unqualified to scientifically and successfully treat cases.

Dr. Farrar, a short time since, prophesied of what is now a fact when he said: "It has for some time been evident to me (though by most people thought to be impracticable), that the time will come when the regulating process and the necessary apparatus will be so systematized and simplified that the latter will actually be kept in stock, in parts and wholes, at dental depots, in readiness for the profession at large, so that it may be ordered by catalogued numbers to suit the needs of any case. So that by a few moments' work at the blow-pipe in the laboratory, the dentist may be able, by uniting the parts, to produce any apparatus of any size desired, at a minimum cost of time and money."

Dr. G. H. Chance, of Portland, Oregon has "A Plain Talk About the Teeth," that he distributes among his patrons that is quite comprehensive, and which we should think would be very interesting and instructive. This mode is becoming a popular way of instructing the public that must reflect favorably on the dentist and his work.

DOINGS OF DENTAL SOCIETIES.

At the banquet tendered by "The Dentists of Saginaw" to "The Michigan Dental Association," Dr. J. Taft, Dean of the Michigan University thus responded to the toast "The Progress of our Profession :". "The progress that has been made in the dental profession can be realized only by those who have taken part in the great work." He cited the time when the blacksmith or the cobbler could extract a tooth as well as a dentist, and when a dentist was considered but little better than a thief, when the medical profession looked on the dental profession as a miserable art. He then showed how, at the present day, they rank high in the professional walks of life and how the medical fraternity invite dentists to become members of their associations. In conclusion he said : "The progress has been upward and onward, and as the responsibility has increased so has the profession advanced to meet all requirements."

* * *

The Central Dental Association of Northern New Jersey is becoming quite a sensation in the dental profession. For ten years these live dentists have maintained monthly meetings of a most attractive character, drawing to themselves the *élite* of dental society. Their meetings are social and intellectual. Every meeting is sure to be treated to one good paper, followed by a discussion that shows maturity of judgment. At their last meeting, their former secretary (present treasurer) was presented with a beautiful gold watch, and the society with a characteristic picture. The former was presented by the society as an acknowledgment of faithfulness; the latter by the Philadelphia Dental Association as an appreciation of that society of its warm friendship.

Probably the C. D. A. of N. N. J. did more to give shape to the approaching Columbian World's Dental Congress than any other force, though the Southern Dental Association and many other bodies have done nobly.

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The *Dental Tribune* is a new venture, as what cannot be found as a new venture in Chicago? Two dollars a year seems rather high for a pamphlet of eight pages, but then it has sixteen pages of advertising, and is issued weekly. Let us hope it may succeed, and be useful, especially during the continuance of the World's Fair.